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# Gleanings in Bee Culture

VOL. XXXIX

JULY 1, 1911

NO. 13

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#### WAX

We are paying 28c cash, 30c in trade for clean wax

# THE A. I. ROOT COMPANY

## ST. PAUL, MINN.

PILCHER & PALMER, Northwestern Managers

1024 Mississippi Street



# Cleanings in Bee Culture

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VOL. XXXIX

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## Editorial

### BEE-KEEPERS STARTING IN A NEW BEE COUNTRY.

WE desire to call special attention to the article by O. B. Metcalfe, on page 407, and the footnote accompanying it.

### HOW AN AUTOMOBILE FACILITATES THE WORK OF A BEE-INSPECTOR.

DURING the last few days we have been helping the foul-brood inspectors of Ohio by taking them around in an automobile. A machine will enable the inspectors to do almost a week's work in a day, for the reason that comparatively little time is lost in running from one bee-keeper's yard to another one.

### DO QUEENS LAY UNFERTILE EGGS?

IN Mr. Wesley Foster's Department, page 388, this issue, he raises the question whether there are not some queens that will lay a large number of eggs, a large percentage of which will prove to be unfertile. We have, ourselves, often wondered if this might not be true. Over and over again we have seen queens lay well, but for some reason or other there would be very little maturing brood. We should be glad to get the experience of our readers; because if it is a fact that some queens lay unfertile eggs, the sooner we pinch their heads the better.

### WHY DON'T BEES GO INTO SUPERS?

VERY often subscribers will ask the question above. Examination will often show brood-nests clogged with brood and honey, and nothing doing in the supers. In a case like this, nothing stimulates an upward move into the sections like uncapping the honey in the brood-nest and putting into the super a partly filled and drawn-out section or two from a super of another hive, where the bees are already nicely at work. Italians especially are a little inclined to jam the brood-nest. If we can *once* get them *started* above they will keep on going above and store there.

### RECIPROCITY.

WE have refrained from saying any thing or allowing any discussion on this subject in our columns, for whatever the bee-journals

can say will have but little or no effect on the general situation. If the trade pact goes through, we are not afraid that it will affect the bee-keeping interests, for the reason that prices have for years maintained almost an absolutely even parity on each side of the line. It is our individual opinion that reciprocity will be a great benefit to both countries.

We see no need of having a general discussion of this subject in these columns, either pro or con; for, unfortunately, when a political question once gets started it is almost impossible to stop it.

### THE CRUSADE FOR BETTER SHIPPING-CASES RECEIVING ENCOURAGEMENT.

SINCE the article on page 361 of our last issue was printed, urging better shipping-cases, we have received a good many encouraging letters; and not only are the bee-keepers of the country going to join us in this crusade, but one or two of the large manufacturers of bee-keepers' supplies have written us that they are convinced that the time has arrived for putting out stronger cases, and that they are making preparations to furnish such cases to their customers.

Keep the ball rolling, brother bee-keepers. If we would save the comb-honey business from going into a premature decline we must wake up to the importance of delivering our fragile product to the public by saner methods.

### "ARCADIA HAS TO MOVE."

OUR readers will remember that Dr. E. F. Bigelow, the nature-study man, and lecturer at teachers' institutes, established at Sound Beach, Ct., what is known as the Agassiz Association, of which he is president. The home of the Agassiz Association, consisting of several frame buildings, is located at Arcadia, not far from the postoffice of Sound Beach. The owner of the grounds allowed the association to use the property; but new conditions have arisen, on account of which Dr. Bigelow will have to move. He has spent a considerable amount of time in organizing the association, in putting up special buildings, and for all this he has received no compensation. He has been content to work for the good of the cause. Dr.

Bigelow is an enthusiastic bee-keeper, and the study of the bee was an important department in his scientific work. We are sorry this change has to be made, and hope some arrangement can yet be effected by which the work can be allowed to go on.

A GOOD TIME IN STORE FOR THOSE WHO ATTEND THE NATIONAL CONVENTION THIS FALL.

WE have just learned that those bee-keepers who intend to attend the National Beekeepers' Convention to be held at the Court House Hall, Minneapolis, Aug. 30, 31, and who desire to learn something concerning the city to which they are going, may get a folder describing the hotel accommodations, indoor amusements, outdoor attractions, and also giving a map of the Business District of Minneapolis, by writing to C. A. Palmer, secretary of the Minnesota Bee-keepers' Association, 1024 Mississippi St., St. Paul, or to the secretary of the Commercial Club of Minneapolis. These folders will also be given away at the hall during the convention.

The Commercial Club of the city expects to provide special cars for every one attending the convention to see all points of interest around the city, free of charge. We are sure that this royal entertainment will be appreciated by all bee-keepers who attend the meeting.

THE FOLLY OF USING SMOKE AT THE ENTRANCE WHEN A HONEY-FLOW IS ON; MORE VEILS AND GLOVES, AND LESS SMOKE.

ON page 388 of this issue our correspondent from among the Rockies, Mr. Wesley Foster, makes a good point when he condemns the use of smoke at the entrance of the hive during the honey-flow. We never intended to advocate it at such a time; but during bad weather, say just after a rain, or when it is chilly, a whiff or two at the entrance, and then over the top of the frames, make it much more comfortable to handle the colony. When the bees are flying heavily at the entrance, and bringing in nectar, there is, of course, no need of using smoke at the entrance. A large proportion of the bees are then in the field, and a little smoke applied over the tops of the frames is sufficient.

In this connection Mr. Foster, after looking at the series of moving pictures showing Mr. Townsend at work among his bees, concludes that our Michigan correspondent does not use a veil. Mr. Foster very properly moralizes on this by saying, better use more veil and gloves, and less smoke. This is sound advice, and of course Mr. Townsend would concur in it. While the pictures show him without a veil, as a matter of fact he always uses face protection; but in deference to the request of the editor, who was taking snap-shots of him for the moving-picture series, he removed his veil. The personality of the bee-keeper is always an important factor. With a veil on, that per-

sonality is more or less obscured, and for that reason we asked our correspondent to take his veil off while we were "shooting" at him.

FROM THE GROCERY TO THE MARKET-BASKET; "MAD ALL OVER."

REFERRING to the article on page 361 of our last issue, where we urged the importance of stronger and better shipping-cases, we failed to put special emphasis on the need of protecting the sections when they go into the market-basket of the housewife. If a cheap carton served no other purpose than to protect the delicate combs while *en route* from the grocery to the home of the consumer, it would well fulfill its mission. But, fortunately, those same cartons as illustrated on page 362 of our last issue protect the combs while in the hands of the railroad companies, stiffen the case, absorb the vertical pressures, and insure better delivery at the end of the route. But the chief value of such cartons lies in the fact that the combs are protected when thrown into the market-basket with a lot of other packages of groceries having square corners that are almost sure to punch into the unprotected comb. If there is any thing that makes the good housewife "mad all over" it is to have her groceries daubed, and we couldn't well blame her if she never bought another ounce of comb honey.

THE NEW ILLINOIS FOUL-BROOD LAW WITH TEETH IN IT; OHIO'S APPROPRIATION FOR FOUL BROOD.

SOME years ago Illinois had a foul-brood law, but it had one serious defect; viz., that the inspector had no power to compel a person having diseased bees to administer treatment. For a number of years the Illinois State Bee-keepers' Association, backed by the great mass of the bee-keepers of Illinois, have been trying to get a new law, correcting the defect in the old statute; but just about the time that they would begin to make progress, one or two persons styling themselves bee-keepers would put in the claim that there was no need of the law, and that the only people who wanted it were the manufacturers of and dealers in bee-keepers' supplies, particularly the makers of foundation. It looked as if these "insurgents" would be successful again this year in defeating the will of the great majority. But we are informed by the secretary of the Illinois State Bee-keepers' Association that the bill that was passed on the 19th of last May was signed by the Governor on the 5th of June. This law took effect July 1, and hence is now in operation.

The new measure has teeth in it; and while usually it is not necessary to use the power of a great State to enforce the provisions of a law, undoubtedly the foul-brood inspectors of Illinois will now have a chance to make some people come to time.

In the mean time, Ohio has secured an appropriation of \$2000. When our law was



passed, a year ago, there were no funds available for direct apiary-inspection work. The Ohio inspectors are now out in the field, and are doing good work. But don't be impatient if they do not call in your locality at once. They may not come any way unless a request is made. Write to Chief Foul-brood Inspector N. E. Shaw, Department of Agriculture, Columbus, Ohio.

**BEE-KEEPING BY TWENTIETH-CENTURY METHODS; OR, J. E. HAND'S METHOD OF CONTROLLING SWARMS.**

MR. HAND's new fifty-cent book has just come from the GLEANINGS press. While it was written specifically to describe the J. E. Hand method of controlling swarms by means of his new patented switch-lever bottom-board, the book contains a great deal of other valuable matter. The author shows not only how to control swarming, but how to treat foul brood without shaking. This he accomplishes by shifting the flight of bees from an infected hive into a clean new one with frames of foundation. All the brood can be saved, and every bee. There is no shaking nor brushing; no interruption, no stings, and no confusion; and, after the bees are all shifted and the brood hatched, the combs can be melted up.

Mr. Hand has been for many years a successful bee-keeper; in fact, he is one of the very few surviving pioneers of the olden days, and yet he belongs to the new generation that is ever seeking the new and the useful.

In order to get this book introduced we will offer it to new subscribers, or for renewals accompanied by \$1.00, providing the same is received before the subscription expires; that is to say, we will furnish GLEANINGS one year and the new book, "Twentieth-century Methods," both for \$1.00. In case one has allowed his journal to get in arrears he may take advantage of this offer by sending \$1.00, plus enough more money to cover the extra time for which the journal has run.

As we have published only a limited edition, those who desire to take advantage of this offer should do so at once.

The following is a list of subjects discussed by Mr. Hand:

Higher Prices for Honey vs. Economical Methods of Production — a Common-sense View of the Matter.

Swarming.

The Equipment.

The Dual-hive System; or, the Perfect Control of Bees.

Increasing Colonies.

Swarm Prevention by Requeening.

The Hive to Adopt.

Requeening.

American Foul Brood.

Wintering Bees.

Out-apiaries.

Feeding and Feeders.

Section Honey.

Bulk Comb Honey.

Producing a Fancy Article of Extracted Honey.

Expansion and Contraction.

Conveniences.

The price of the book is 50 cts. postpaid.

**LATEST HONEY-CROP REPORTS REVISED BY WIRE.**

IN order to get the very latest information possible from all sections of the United States, we have asked our men in the field, where located at a distance, to send us night-letter telegrams, stating the amount of honey secured, and the probable prices that will be asked. Those near by have responded by letter. These reports will be found on page 4 of the advertising section of this issue—just following the Honey Column.

As a general summary, the reports show that Texas will not have as large a crop as was first predicted. California, taking in the whole State, will do considerably better than the first advices seemed to indicate. Iowa, Missouri, Nebraska, and all that section of the clover belt, have been hit hard by the drouth, and there will not be much clover honey from those States. Recent rains through the central States have improved conditions in Michigan, Ohio, Western Pennsylvania, and New York; and it begins to look now as if Michigan and New York might have some white-clover honey as well as basswood. Wisconsin will not have much clover, but probably some basswood. Illinois and Indiana seem to have been struck by the same drouth that blighted the clover in Missouri and Iowa, and reports do not look good from these States. There will be a fair to light clover-flow in Northern Ohio, in Central New York, and Central and Western Pennsylvania. Eastern New York, Eastern Pennsylvania, New Jersey, Delaware, and Virginia, have also been hit by a drouth, and the crop will be light if not a failure. Vermont and Maine, as well as Canada, at the present writing, give promise of a flow of clover honey.

It very often happens, when drouth has cut the clover short, especially if that drouth has been preceded by heavy rains, that basswood will yield copiously. The prospects from this source this season are better than for many years past. While, unfortunately, the great bulk of the basswoods have been cut for timber, there is enough left, especially when we count young trees, to help piece out the short crop of clover. To our notion, there is nothing better than clover and basswood mixed.

The telegraphic reports, as given on page 4 of the advertising section of this issue, are mainly from dealers in bee-keepers' supplies who have excellent opportunity to judge of crop conditions in their respective localities. Their reports, supplemented by the reports of others who have volunteered information, will be very valuable. In the meantime, we desire our subscribers to continue sending in reports, as we wish to give the very latest respecting crop conditions in the United States.

# Stray Straws

DR. C. C. MILLER, Marengo, Ill.

THAT REPLY to B. K., page 376, where it says, near the close, "of course removing the queen," should have added, "and all cells already started in the hive."

THAT PLAN given by R. C. Aikin, p. 373, is the best melted-wax plan I've ever seen for fastening in foundation, and I shouldn't wonder if it may beat the groove and wedge. That " $\frac{3}{8}$ " inch narrower" form-board, to avoid gluing the board to the frame or foundation, is great.

STANDARD OIL and the tobacco trust have had to let go their strangle-hold; the beef trust is shaking in its shoes, and so is the lumber trust; and I wouldn't give Lorimer 30 cents for his claim to his seat. Oh! the country isn't going to the bow-wows just yet.

THAT TALK, page 320, about picking out some things in GLEANINGS and skipping others doesn't fit "in this locality." I never dare skip any thing, even by the rawest beginner, for fear it may contain some hint that may come useful—if not now, at some future time.

M. Y. CALCUTT had two queens in foul-broody colonies that reared drones in worker-cells, and wants to know whether this was the effect of the disease. It is not likely that foul brood directly produces drone-laying, although indirectly it might have a tendency that way, for foul brood, at least the European kind, seems in some way to affect the vitality of the queen.

I ARISE to give something that I gave years ago, but which will be new to most beginners. It's about draining honey from cappings. The first part drains off nicely; then it thickens and dries down so as not to drain at all. Years ago, when I extracted, I did the work down cellar—nice cool place. The cappings left to drain there, instead of drying down at the last, became thinner all the while with the moisture of the cellar, and left the cappings quite clean. [This is a seasonable item. Paste it in your hat, brother bee-keeper.—ED.]

R. C. AIKIN, the shortened top-bar may be bad in your locality, as you say, p. 372, or anywhere where hives are of any old length; but that should not discourage their use by one who has things just right. I've used them many a year in all my hives (in all of them "the thin edge stood up from the rabbit"), and there has been trouble in just one hive, and I'd throw away that hive and two or three others rather than to forego the comfort of the shortened top-bars. [The groove-and-wedge plan has made trouble in some few cases; but in the great majority of instances bee-keepers have seemed to get better results with it than by the melted-wax plan advocated by our correspondent. The wax plan is messy and requires considerable skill to work it properly.—ED.]

A BEE-KEEPER found his ten colonies dead early in December. They had been fed syrup prepared in a copper vessel. Analysis showed copper in the syrup and in the dead bees.—*Le Rucher Belge*, 4. [We can scarcely believe that the copper vessel could impart enough poison to the syrup as mentioned. We should doubt it very much. The syrup could not have been in the vessel more than an hour; and during that short time there could not have been enough copper salts absorbed to give any taste to the syrup, let alone killing bees. While we would not call in question the chemical analysis, it would be our impression that the copper poison must have been received from some other source.—ED.]

THAT BEES can be fed scientifically so that better queens can be reared in a dearth than in a flow, p. 355, is something new to me, and I'm glad to accept it as true. Allee samee, for us every-day chaps that can't feed scientifically, it's a boon to have dandelion so plentiful as to give us good queens a month earlier. [Yes, we again submitted this item to our queen-breeder, Mr. Pritchard, and he reaffirms his previous statement, that he can rear *better* queens under the stimulus of *scientific* feeding than under the stimulus of a honey-flow that varies all the way from a very heavy flow to a light one. A heavy flow is pretty apt to upset his queen-rearing operations altogether. A medium or a moderate one he says is all right, but he can not *regulate* it. For cell-building, the bees need a moderate and continued supply of food—not an intermittent light and heavy amount. He would rather have an actual dearth of honey than to have a flow that is irregular, going from light to heavy.—ED.]

THERE MAY BE good reason for covering most of a section with a carton and using two-inch glass in shipping-cases, but there is a strong reason that should not be lightly thrown aside for three-inch glass with the section fully exposed. It's the matter of making a show. To be sure, a case is stronger with two-inch than with three-inch glass, and it is still stronger with all wood and no glass. But an experience of years says that with three-inch glass the case is strong enough, and the beauty of a pile of honey in double-tier cases with three-inch glass has a money value that must be reckoned with. [You say that an experience of years shows that a case with three-inch glass is strong enough. That may be true in your experience; but it is doubtful whether a shipping-case can be too strong for the average bee-keeper. You usually ship your honey by the carload. If you do not, you put it up properly in carriers. If you could see how some of the comb honey is put up and shipped by some producers you would say a case can not be too strong.—ED.]



# BEE-KEEPING IN CALIFORNIA

## WHITE SAGE UNCERTAIN; ORANGE YIELDED LITTLE.

Four weeks ago I reported a fifty-per-cent loss for this section of California. Since that time, conditions have been ideal for the best results; strong colonies have gained rapidly, and the weak ones in proportion.

The black or button sage should last two weeks longer, by which time the white variety will just about be at its best. The white sage is always uncertain as to its yield; and since the button sage has already passed its prime, and since weak colonies are just now getting into the supers, we can not possibly expect a large crop. However, if the white sage should yield well through June it will not be hard to get two extractings after June 10 from this source, which would add greatly to the California crop.

We had no great results from the orange crop this year; but if the bees had been in a normal condition the yield would have been tremendous; for the season has been most favorable for orange secretion, and bees have been able to fly during almost the entire period, which is seldom the case.

Taking it all in all, even if every condition should prove favorable from now on (May 26), it would still be difficult for California to turn out a crop of sage honey equal to our average crops for sage-yielding years.

Redlands, Cal. P. C. CHADWICK.

## BLACK SAGE AND WILD PEA YIELDING.

Mr. Chadwick's report from Redlands, in the May 15th issue, is correct. So far as I can learn, the same conditions exist throughout this county—Los Angeles. Now that the season is on, I find the button sage is not yielding. The hills are red with the bloom, yet not a bee is in sight. They are working some on the black sage, also on the wild pea—I refer to the Calabasas district. Three weeks will tell the story.

T. ARCHIBALD.

Los Angeles, Cal., May 27.

## EIGHT FROSTS IN MAY.

On May 24 we had a white frost, with the thermometer at forty degrees. This made no less than eight frosts during May, although the days were generally warm. May 21 the thermometer reached 96.

I lost fifty per cent of my bees, and I believe the cause was the poor season last year and the failure of the bees to raise young bees at the right time to carry the colonies through the winter. Most of my bees that died were in an outyard which I had bought and had not yet requeened. Although all of the hives contained honey, the queens were of the common sort and all ages. At my home yard, where I had Italian queens not over two years old, all colonies came through in good condition, and will average fifty pounds of sage honey per hive. I am on the northern limit of the

sage, and the conditions are somewhat different from those of Southern California. I expect to test some Carniolans this year.

Paicines, Cal. GEORGE WM. MOORE.

## ADVERSE WEATHER CONDITIONS.

We had an abundance of bloom, but nothing but cold, cloudy, and windy weather; and even this morning, May 26, we nearly had a frost. The black sage and wild alfalfa are going out; and although the white sage is just beginning, if the weather does not change soon we shall have no better crop than last year.

It is very hard to get accurate statements as to conditions. I knew of one man who had 500 colonies, and there was a report that he was doing very well. When I went to see him, however, he had taken off but little more than one ton of extracted honey. I have taken, so far, 18 cases of extracted honey from 250 colonies. The colonies do not get very strong, as there is so much loss this cold weather. I have not had enough swarms to make up for the winter loss.

Fallbrook, Cal. E. LAURITZEN.

## WEAK COLONIES IN THE FALL CAUSED THE GREAT LOSS.

This is an off year again, with but a quarter to one-fifth of a crop. We had no late rains, and hot winds took the surface moisture. Bees came through in a very weak condition. Many thousands of colonies were lost through spring dwindling with hives and supers full of honey. The supposed cause is that the season of 1910 was a failure, and a lack of pollen or stimulative late breeding. Bees were too old to go through the winter, and were found dead in small clusters the size of a hen's egg. One or more combs of brood were started the size of a man's hand, which perished from lack of warmth. Many of these clusters were in a putrid state from moisture from the dead bees and sweaty combs.

Many of the weakened colonies that came through seemed to have been affected from the continuous wet and chilly weather, and eventually died out. From my observation and experiments I am convinced it was spring dwindling from causes mentioned. I have never known this to happen here before. My loss was over 150. Every apiary near the coast came through in good condition, as the coast section has the beans and gum-trees for late stimulation; but the bulk of the bees are in the interior, where the great loss occurred. Some apiaries were entirely lost.

Piru, Cal. M. H. MENDLESON.

## CROP FROM ORANGE AND BLACK LOCUST.

I secured a fine crop of honey from orange and black locust, and at this date it continues very good. We had an average of nine gallons of extracted honey per colony.

Chico, Cal., May 9. S. J. MORRISON.

# Bee-keeping Among the Rockies

WESLEY FOSTER, Boulder, Colo.

## ANOTHER COÖPERATIVE ASSOCIATION.

Another progressive Western State (Idaho) is coming to the front by organizing a coöperative honey-producers' association to handle bee supplies and sell honey. The association will be modeled after the Colorado Honey-producers' Association. When we have one or more successful producers' associations in each State, a combination of these will produce an effective national organization. Get busy there, "Down East-ers."

## CROP PROSPECTS GOOD.

Bees were swarming and building up fast in the Arkansas Valley early in May. Fruit-bloom was abundant throughout the State, and the bees built up well on this. All the wild flowers seem laden with nectar, and this is a favorable omen for the heavier yielders, alfalfa and sweet clover, during June, July, and August. The only limit to the crop will be the heavy loss of bees in parts of Colorado, especially in the north-east, where from fifty to eighty per cent of the bees perished during the past winter.

The water of Boulder Creek is rushing past the grass-covered bank on which I sit as I write on these hot June days. The snow is melting high up on the range, thirty miles to the west, and down comes the snow water to fill the irrigating-ditches in the valley, to trickle about the roots of the alfalfa, and then, absorbed into the tissues of this luxuriously green legume, finally fulfil its mission in the purple blossoms as delicious nectar to be sipped by the bees. Alfalfa bloomed the last of May this year, and the bees are doing well, though the number of colonies in Northern Colorado is much less than last year. Eight or ten cars of bees were shipped to Idaho and Oregon from Boulder Co. last spring.

## QUEENS AND THEIR WORK.

The eggs of queens vary more in proportion to their size than those of the different breeds of hens. I have a Caucasian queen that is laying eggs twice as large as the average egg of a queen. What per cent of a queen's eggs are fertile, and what per cent hatch is obtained among the best queens? We should know more of the ability of our queens if they confined their energy for just one day to one side of an empty comb. I have several queens that have laid over 3000 eggs on one side of a comb, and not over 20 cells filled with honey or pollen. Were these cells filled with honey or pollen before the queen could lay in them, or did the eggs prove unfertile, and, after they were removed, did honey and pollen occupy the cells?

I have a few queens that show great egg-laying ability, but many of their eggs never

hatch, and the hives do not fill up with bees as do others whose queens have no more combs with eggs in them. Something is wrong when a hive will always have eggs, but never any commensurate amount of larvæ and capped brood.

## SMOKE AT THE ENTRANCE.

I do not practice blowing a little smoke in at the entrance of the hive, and I do not agree with the editor that it is all right. A hive of bees bringing in five pounds of honey a day will lose nearly a pound of bees by being disturbed with smoke at the entrance, and will be all torn up inside the hive. Suppose you go through fifty hives a day: *there* is a loss of fifty pounds. It is possible to puff a little smoke (a very little) in at the top when raising the cover, and go through the manipulation without disturbing the field-workers.

I note also that Mr. Townsend does not use a veil—that means more smoke. I say more veil (and more gloves if necessary) and less smoke in our bee operations, especially during the honey-flow. I think too much smoke is responsible for the loss of many a good queen. With gentle bees neither smoke nor veil need be used. Deliberate movements when working over the hive will be better practice than some of the habits the professional bee-keeper falls into. One of the difficult things to learn is to speed up operations at all times except when over the hive of bees with the cover off.

## NEW FOUL-BROOD LAW.

Colorado bee-keepers have reason to be grateful, for, although the governor suffers still from pen paralysis, caused by vetoing appropriations to State enterprises, the foul-brood bill escaped his wrath and received his approving signature. Whether some boyish recollections of the charmed nectar of the honey-bee caught legislators and governor unaware, we shall never know; and, in fact, we were so long in knowing the result at all that a very disabled and disheartening report crept into this department in the June 1st issue, the hurried night letter failing to reach the press in time. But nothing matters, now that we have the law with a chance for strong honest work in bracing up Colorado's bee interests. Instead of county inspectors we now have a State inspector working under the supervision of the State Entomologist, who will hire deputies when necessary, and conduct investigations in bee culture, honey-plants, etc., besides taking hold of the problem of foul brood and other bee diseases. Best of all, \$2500 has been appropriated to carry on the work. The law is modeled after the Ohio plan, but will not take effect until about August 4.



# NOTES FROM CANADA

J. L. BYER, Mt. Joy, Ont.

Page 325, June 1, I am made to say that there was abundance of nectar in the plum-blossoms. That should read, instead of "plum-trees," "willow-trees," as the former is not plentiful enough in our section to cut any figure in nectar production.

A few days ago, while visiting a bee-keeping friend, I was asked if black bees are not worse than Italians for balling their queens. He thinks that this is the case; but I can not agree with him in the matter. Any way, the colony that did the deed this forenoon was pure Italian, and one of the gentlest in the apiary. They were handled very carefully, and did not seem to be in the least excited; that they would ball their queen never entered my mind. After I had looked over the combs once I happened to glance down on the bottom-board, and there was the queen, encircled in a ball about as large as a butternut. I picked up the ball and plunged it into a watering-trough that happened to be near; but something had happened in the short time she had been balled, as she seemed unable to move her legs at all. Close examination failed to locate a sting in her body, and I am at a loss to know what happened. While she was not quite dead when I left her on top of the frames, I certainly expect that she will be to-morrow.

The season of 1911 will be remembered by bee-keepers here in Ontario for some time for its humidity and remarkably sudden changes in temperature. The spring was cold and backward, then the warmest May on record, accompanied by little rain, followed. After a late spring the clover came on with a rush on account of the great heat, and began to bloom abnormally early. As a result it is very short on the ground; and, until a few days ago, prospects were that it would soon dry up.

Every thing was parched and dry; but about a week ago rains came, and at present, June 13, the ground is soaked. Whether this will make a difference with the alsike remains to be seen; but at any rate no honey has been stored up to date. In white-clover localities I predict a good yield if weather turns favorable, as the heavy rains general over the Province are bringing out the bloom in good shape. Unfortunately for us, we have very little white clover as compared with many other sections. Just why this is the case I have often wondered, as our soil is second to none in Ontario.

Judging by recent issues of the *British Bee Journal* we may thank our stars that we have nothing worse as yet on this continent in the way of bee diseases than the two kinds of foul brood, bad enough as they are. I refer to the prevalence of the "Isle of Wight" disease, as a large part of the pub-

lication spoken of is filled with reports, etc., concerning this veritable plague to the bee industry. So far they have not the slightest idea as to the cause of the disease, nor have they any data of an authentic nature to prove that any affected stocks have been cured of it. In the absence of any proof as to how the disease is transmitted, certainly it would be wise on the part of American bee-keepers not to import any bees from infected countries. Be it understood that the so-called "Isle of Wight" disease of bees differs radically from the brood disease we have to deal with, as the former attacks the adult bees, while the diseases we have to contend with are restricted to the brood. It would be the natural supposition that there would be grave danger in importing adult bees from an infected district; but of course this is only a guess on my part, for I really know very little about the characteristics of the disease.

A few days ago I received a short note informing me of the death of W. Z. Hutchinson. At no time has the news of the death of any one outside of the family circle so shocked us as when the sad intelligence came to our home. W. Z. Hutchinson had many friends here in Ontario, and he will be sincerely mourned. For the past few years I have had considerable correspondence with him; and, while admiring him for many splendid traits in his character, his unselfishness and optimism stood out pre-eminently at all times. No doubt he had his trials, like all other mortals, but he never made others miserable by constantly dwelling upon them. More than once we have received inspiration from his splendid editorials, to say nothing of the sunshine that always illuminated the few private letters it has been my privilege to receive from him. While at the Albany convention it fell to the writer to help draft the resolution of condolence and sympathy that was sent to Mr. Hutchinson when he was at the hospital; and from the reports received shortly afterward we were led to believe that he was on a fair way to recovery; hence the surprise we experienced when we heard of his death. The sincere sympathy of many bee-keepers (all who have met him, in fact) here in Canada will go out to the bereaved family; and although the kind father, husband, and friend has passed away from things earthly, yet his memory will remain for many years in the hearts of thousands of bee-keepers who have learned to love and respect him for the many good qualities he possessed, and for the sterling integrity of the man, always exemplified in every business transaction, no matter with whom he was dealing. His place as editor of the *Review* will be hard to fill; and in the home, and in the hearts of his friends, there can never be a substitute.



# Conversations with Doolittle

At Borodino, New York

## HOW TO USE THE LANGSTROTH HIVE TO ADVANTAGE.

"Which is better—the eight-frame hive or the ten-frame?"

"There is a difference of opinion in this matter. In this twentieth century our most practical apiarists do not depend upon natural swarming for increase, so that what was known as the contraction system has become largely a thing of the past. The general trend is now toward the ten-frame Langstroth hive. A few advocate the use of but a single-story brood-chamber at all times, so far as the frames go, only section-supers being used above, and they claim that this ten-frame hive is too large at times, and too small at other times. This might possibly be so with one who considers the ten-frame brood-chamber as a fixture at all times of the year. But what is there to prevent making this hive smaller by use of dummies, if necessary, or larger by using another hive under or on top?"

"The advocates of small hives, almost to a man, favor feeding in the spring as a stimulation to brood-rearing. If the queen must be coaxed by feeding in this way in the spring to lay to the best advantage, then it would not be well to have a lot of empty comb in the hive in which to store this feed. But the majority of those using the ten-frame hive claim that frames filled with honey are quite as good as dummies for protecting the cluster, and they have the advantage of making the bees feel far richer than does daily feeding, so that these frames of honey furnish an incentive to the bees to put forth more effort toward the rearing of brood than can possibly result from feeding. Hence the large hive gives the brood at the right time, with the least possible expenditure of labor."

"Then why is a still larger hive ever considered necessary?"

"Large hives at the right time, and large hives in the proper shape, mean rousing colonies of bees, other conditions being equal. They prevent swarming, and a large surplus crop is the result. But the ten-frame hive, when used with only a single brood-chamber, soon becomes so filled with brood and bees that, with the honey and pollen it contains, the bees contract the swarming fever, and this is not favorable for a large crop of comb honey. For this reason the brood-nest should be enlarged at the proper time to prevent the swarming fever, just a few days before the bees would be seized with it.

"A day or two before the bees become crowded for room, select a hive that is in proper condition, and, after removing all the combs not having brood in them, which will generally be only the two outside, substitute empty combs. Over the colony a queen-excluder should be used, and above this another hive-body. Insert in this hive-body three empty combs, or some only partly filled with honey, setting these on the side

of the hive nearest you. One of the combs just taken out of the brood-nest, two more combs empty or partly filled with honey, and the other comb just taken from the brood-nest may then be put in, and, lastly, three more combs partly filled with honey. When all have been properly spaced, close the hive.

"The problem of swarming will be reduced to a minimum by using a ten-frame hive in this way for breeding purposes, thus giving the queen plenty of empty comb in which to deposit eggs, and providing an abundance of honey for brood-rearing, and a place to store whatever surplus may come in before the main honey-harvest arrives. The plan has the following advantages: While the queen is using the cells in the empty combs intended for egg-laying, the brood emerges from the other combs, thus giving her more room; all honey in excess of the amount required by the bees and brood, is stored in the frames above; and the surplus of bees have a place to stay, all in one home, without being crowded. In this way an extra amount of surplus is obtained in these combs above. All honey that is not used by the colony goes into this upper hive; otherwise it would have to go into the brood-chamber, or perhaps would not be gathered at all. If stored in the brood-chamber, it clogs the brood-nest and crowds out the queen. It also places honey along the top-bars, above which the bees are loath to store during the main flow when the section supers are put on, and the colony is in an ideal shape for the supers of sections at the beginning of the surplus honey-flow.

"When the time comes for putting on these supers, a contraction plan far different from that of the past can be followed, which is simply a change in the order of the hives, putting the one above on the stand below, and on top of this the section supers. Examine the brood-chamber until the queen is discovered, then place her at the entrance of the other hive, into which she will immediately run. Shake the bees from two or three of the combs of brood; close this hive, and allow it to remain at one side near the hive now having the queen. By night the larger part of the field bees will have gone with the queen, but enough will remain with the brood to care for it properly.

"Ten days later this hive of brood should be placed on the opposite side of the hive containing the queen, which again fills up with a new force of field bees, the hive having the queen. Eleven days later, at which time the worker brood will have emerged, the bees should be shaken from the combs in front of the hive having the queen, and all will be in the best possible shape to finish up a large lot of section honey. The broodless combs should be placed on top of some weak colony which will keep them until fall. They can then be stored away for use again the next year."

## W. Z. HUTCHINSON.

## Bee-keeper and Publisher.

BY DR. C. C. MILLER.

In the galaxy of brilliant bee-keepers who have died within the last few years, none, perhaps, were better known in this country than W. Z. Hutchinson, editor of the *Bee-keepers' Review*, and for many years special correspondent of this journal. In our last issue, page 353, we attempted to give only a brief sketch of his lifework; but the prominence of the man, and the further fact that he was a brother-editor, led us to believe that a further write-up of his life and work should be made by some of his old friends—those who had seen him rise from a position of obscurity to one of prominence. We selected among the number, Dr. C. C. Miller, Prof. A. J. Cook, R. L. Taylor, and A. I. Root. His life history as seen from these various view-points is exceedingly interesting; and we feel sure that our readers will be glad to review them. The sketches appear in the order in which they were received.—ED.

On Decoration day, May 30, 1911, while the thinned ranks of the old soldiers were on their way to lay their floral tributes on the graves of their departed comrades whom the grim reaper, Death, had gathered to himself, that same grim reaper made a gap in the ranks of bee-keepers that can never again be filled, when he gathered to himself the creator of *The Bee-keepers' Review*. Although Editor Hutchinson had rounded out his threescore years he seemed only to have just reached his prime—just ready best to carry on the work to which he had devoted his life. What his loss means to the inner circle of that home that was so dear to him can be left only to conjecture.

William Z. Hutchinson was born in Orleans Co., N. Y., Feb. 17, 1851, and when he was four years old his parents took him to Genesee Co., Mich., in which county the remainder of his life was spent. He spent his growing years amid the primeval forest, where the ax made a place for a home, and with his father's family experienced the privations and hardships of the early settlers. Along with that, however, there was not lacking the joy of the wild life of the woods, of which the city boy knows nothing, and many a happy hour was spent in trapping, hunting, etc.

A passion for machinery was turned to good account by his making, on a turning-lathe of his own construction, spinning-wheels and reels, and for a few years of his teens he made quite a business of selling these in the surrounding country.

At 18 he began teaching winter schools; and at one of the places where he was "boarding around" he found a copy of King's "Text-book" on bee-keeping, and learned that 50 colonies of bees were down cellar. The reading of that book, the sight of the rows of hives in the cellar, and the examination of an American movable-comb hive, were enough to kindle an interest which was not lessened by a visit to the same place during the next swarming season. Although he did not actually become a bee-keeper for many months, his interest never flagged, and was increased by visits to bee-keepers, and by reading all the bee literature he could get hold of.

Woolen-mills were established, and he found the market for wheels and reels for home use disappearing. It was on a June day afternoon when he made his last sale at the house of a farmer 16 miles away, and, instead of starting immediately for home, he solicited the privilege of remaining over night, partly induced thereto by the sight of a neat array of hives. The farmer was Mr. Clark Simpson. Mr. Simpson had an only daughter. Young Hutchinson concluded she was the "only" one for him, and in due time she became Mrs. Hutchinson.

In 1877 Mr. Hutchinson began to put to practical use the store of bee knowledge he had been gaining by becoming an actual bee-keeper with four colonies of bees. Increasing these he for some years made a business of producing comb honey. For a time he did quite a business in the commercial rearing of queen-bees. In later years, in company with his brother Elmer, he was quite extensively engaged in producing extracted honey, with out-apiaries in the raspberry and willow-herb regions of Northern Michigan, the increase in numbers being in accord with his well-known slogan of the past few years, "Keep more bees." He wintered bees in about all the ways that bees are wintered.

These varied experiences were all helps in what he felt was his chief lifework, the editing and publishing of *The Bee-keepers' Review*. This he founded in 1887, at which time he moved to the city of Flint. Other bee journals have been started since that time, 24 years ago, only to be suspended after a longer or shorter time; but *The Bee-keepers' Review* had elements in it that would not let it die. Like his book, "Advanced Bee-keeping," the *Review* appealed more especially to experienced bee-keepers, and in some respects filled a place all its own. It was strongly marked with the personality of its editor, and when reading in it of the personal experiences of Mr. Hutchinson one could almost imagine he was listening to a face-to-face talk of the writer.

Mr. Hutchinson had a genius for discovering available correspondents, and thus getting into print what otherwise would never have come to the light. In typographical make-up the *Review* was a model. Its editor took more pride in a new set of type than in a new set of clothes for himself. A talent for photography, well developed, was made to yield its tribute to the beloved *Review*. One picture especially will always be remembered, not because it was in any way connected with bee-keeping, but as a work of art, and as giving a glimpse of his more intimate home life. It shows two of his grandchildren eagerly listening to "grandpa" telling them stories. One who looks at it will look long. Looking at that picture, and recalling the man it represents, one does not wonder that the stricken wife should say of him, "A better man, I believe, never lived, nor a kinder husband and father." Tall and erect, he was a conspicuous fig-



ure at bee conventions, where more would have been heard of him had he been less gifted as a secretary and reporter. Sitting, sometimes with little apparent attention to what was going on, he was quick to seize every point of importance, and thus to give a condensed report of real value. Several years in succession he was honored with the secretaryship of the National Association, and also of his own State association.

The immediate cause of Mr. Hutchinson's death was anemia. The operation that had been performed to relieve an acute condition was entirely successful. For a time he rallied, walked about some, and even went up town. On that day it happened to be cold and windy. He contracted bronchitis, from which he never recovered. In his weakened condition he gradually went downward; and although every thing was done that surgical and medical aid could render he began to grow weaker and weaker. But never once was he discouraged. He remarked to his dear wife, shortly before he became unconscious, "I don't know about the *Review* for June; but I guess I will let it go this month, and may be next." He thought that, by so doing, he would be able to recuperate enough to take up the work again; but he kept getting worse until he became unconscious; and, shortly after, he passed away.

Not a member of any church organization, he did not hesitate to express to intimate friends a belief in Jesus Christ, and a grand future for all those who have tried to do right. Hardly any thing less than Christian fortitude would have enabled him to bear with calmness afflictions that would have crushed almost any one else in his place.

#### THE TESTIMONY OF A LIFE-LONG FRIEND IN THE PERSON OF PROF. A. J. COOK.

It is with great sorrow and exceeding regret that I learn of the demise of my friend of more than a quarter of a century. A very brief acquaintance led to a thorough appreciation of the sterling qualities of Mr. Hutchinson, which was strengthened in all of the succeeding years. No one could know him and his work without convincing proof that he stood in the very front ranks of our bee-keeping fraternity. His quick intellect, coupled with his close attention to details, won for him, at the very start, phenomenal success as a queen-breeder. To this, apiculture owes its great good fortune in securing his life-long service in its development. He was temperamentally exact and methodical, transparently honest, and if I were to select one word to characterize our brother it would be genuineness. At conventions, going to and coming from them, at his home, at my own home, and in visiting together beekeepers, I was much with him. He was delightfully companionable, and always alert for any new idea or suggestion touching the interests of the work to which he was so entirely devoted. His quick apprehension and terse, clear-cut style as a writer, made him a most reliable exponent of all that was latest and best in the theory and practice of

his beloved art. His book and journal, the *Review*, were always vital and virile, for he reached for the best, and gave it to his readers so simply and clearly that all understood and profited. The *Review* was a power from the first, and its influence grew rapidly as his readers came to know the sincerity and absolute integrity of the man. He and Mr. R. L. Taylor were great friends, much together, and singularly alike in their unselfish desire to promote the highest and best interests of bee-keepers and bee-keeping.

Such all-around men as was Mr. Hutchinson are all too rare; and with thousands of others all over our broad land I sincerely mourn his too early leave-taking, and tender my heartfelt sympathy to his wife and daughters. May the good Father help them to bear this overwhelming loss.

Claremont, Cal.

#### A FRIEND'S TRIBUTE BY R. L. TAYLOR.

The demise of W. Z. Hutchinson, editor of the *Bee-keepers' Review*, has made a chasm in the bee-keeping fraternity of this country wider than we are often called upon to witness in our brotherhood; and not only because of this, but also because of the fact that he was taken off, so to speak, in the midst of his days when ordinary good health would still give him promise of many vigorous years of fruitful and effective labor, will his death be widely and deeply deplored.

By no one, perhaps, will this be more thoroughly realized than by myself, who have been personally acquainted and had personal intercourse with him, practically, during the whole of our bee-keeping life. I first learned of him more than thirty years ago through his writings in *GLEANINGS*; and as he lived in the adjoining county, but a convenient drive from my own home, I took occasion, about thirty years ago, to pay him a visit. I found him pleasantly located in a fine tract of country near the village of Rogersville, in Genesee Co. He was not at that time engaged very largely in the apiarian line, and even that was largely in queen-rearing, but he was full of enthusiasm; and since that time, though he has suffered many vicissitudes, his enthusiasm has never waned. He was always reticent, seldom or never laughed, but was remarkably even-tempered, and happy in his family relations. In my own relations with him he has done me many kind turns, and has done them voluntarily when there appeared to be no reason to expect him to trouble himself to do them.

To be near transportation facilities he removed to the city of Flint after a time, and, in pursuance of his doctrine of "specialty," which he has latterly so strenuously proclaimed, he gradually, as he could, increased the magnitude of his apiarian interests; but with all his enthusiasm for the business of bee-keeping he had a still stronger taste, long kept latent, for something in a literary line. He longed to be editor and publisher.



As a result of this desire he founded the *Bee-keepers' Review* against multitudinous warnings and advice. For several years he had a hard struggle; but his unyielding persistence won, but not without his judicious editing and careful selection of topics so that it became a power among the more careful and thoughtful bee-keepers.

Lapeer, Mich.

R. L. TAYLOR.

W. Z. HUTCHINSON AND SOMETHING ABOUT  
MY FIRST ACQUAINTANCE WITH HIM.

BY A. I. ROOT.

The first issue of *GLEANINGS* was dated Jan. 1, 1873; and I need hardly tell you that when I started out *another* bee-paper I bent every energy (I was then only 33 years old) toward making it a success. I worked and planned for it, not only day and night, but I left no stone unturned. I hunted up the most successful bee-keepers in the land, and got in touch with Quinby, Langstroth, Adam Grim, and J. E. Hetherington, so far as I could, and scanned every letter I received, with the view of making it a help in developing and exploring the new industry and science. Some time during the year 1877 a young schoolteacher in Michigan sent me some articles for our journal, subject to my approval. By mere accident I have run on to an extract that tells what I wrote to that schoolteacher.

*Friend Hutchinson:*—We usually have more matter on hand than we can make room for in *GLEANINGS*; yet we think we can use the articles you have sent, and have credited you \$3.00 for the same.  
Dec., 1877. A. I. ROOT.

In a letter later he says:

How well I remember the thrill that went to the very center of my being as I read these words! It was the first money I had ever earned with my pen.  
W. Z. HUTCHINSON.

Perhaps I should explain to our readers, that the articles for which I credited friend H. the three dollars were not only nicely and carefully written, but well punctuated, and the sheets were arranged in the most convenient manner for the compositor; but they contained real, sound, honest, and practical ideas, evidently written with the view of helping the brotherhood.

From an article he wrote for publication in *GLEANINGS* I extract the following:

I am a young man who has just bought and partly paid for a small farm. My wife and I are working hard to finish paying for our home, and we sometimes have to figure pretty close in order to obtain my "bee fixings." For instance, I had long wished for the back volumes of *GLEANINGS*, but had never seemed to have the money to spare to buy them. At last, however, by going into partnership with a neighbor, and earning my half by getting up a club, they were obtained.

In spite of financial difficulties under which I commenced bee-keeping, I have prospered in it exceedingly well; perhaps my love for the business has had something to do with my success. I sometimes wonder if I do not think *too* much of my bees. For instance, I wore a suit of clothes last spring until I was ashamed of them, in order to save money to buy a swarm with an imported queen. What do you think, Novice? Do you think it is possible for a bee-keeper to be *too* devoted to his business?

And there is one thing more that I should like to ask Novice, and that is, don't you think it is a good thing for some of us enthusiastic young bee-keepers that we—well, haven't *any* bank account? If

we had, we would probably buy a whole lot of bees, all the "modern improvements," and then—why, then go into "Blasted Hopes," to be sure.

There, my first year's "experience" is finished, and if it has helped any one else in his "first year's experience," it has fulfilled its mission.

W. Z. HUTCHINSON.

Rogersville, Mich., Nov., 1878.

From that time on, for fully ten years every number of *GLEANINGS* contained one or more articles from "W. Z. H.," as we used to call him for short; and I think that, for most of the ten years, his articles occupied the first page of *GLEANINGS*, under the heading of "Notes from the Banner Apiary."<sup>\*</sup>

During his busy life he invented and successfully carried out many things now in practical use among bee-keepers. He was among the first, if not the very first, to make a practical home-made foot-power buzz-saw. This was fully illustrated in *GLEANINGS*.

He and I met frequently at conventions, and have always been on the most friendly terms. When he ceased writing for *GLEANINGS*, and started the *Review*, these friendly relations were in no way marred. From first to last his communications bore the stamp of honesty and sincerity. During the almost forty years that have passed since I made his acquaintance, although there have been many jangles and some severe criticisms in print and elsewhere, I can hardly remember hearing of any one who criticised in any way our good friend W. Z. H. In showing up humbugs and frauds, your humble servant has received his full share of clubbing right and left—especially when he has broken up some scheme to defraud bee-keepers; and very likely I have sometimes been unwise, and may be a trifle too severe. W. Z. H., both through *GLEANINGS* and since then through the *Review*, seems to have chosen a happy medium in these matters, and to have preserved to a remarkable degree a dignified and gentlemanly attitude.

How we shall miss his tall, upright, manly form as he stood up before us at conventions! He never made long talks, and he never got into jangles; but, no matter what was going on, whenever he took the floor, with that well-known beaming smile on his face, the room was stilled without any rapping by the president.

The last real good visit I had with Mr. Hutchinson was when he took some sketches up near the cabin in the woods during maple-sugar time—see pages 659, 660, 661, and 662, issue for June 15th, 1905.

May the Lord be praised that such a man as Mr. Hutchinson was permitted to enter the ranks of bee-keepers, and to labor for them as faithfully as he did during his busy life.

<sup>\*</sup> It is a little singular that the A B C book was started almost simultaneously with Mr. Hutchinson's first article, "My Experience, No. 1," in *GLEANINGS* for Jan. 1, 1878. The book was first sent out in small form for 25 cents; but the call for it was so great, and additions were made to it so constantly year by year, that it eventually attained to its present size.

# General Correspondence

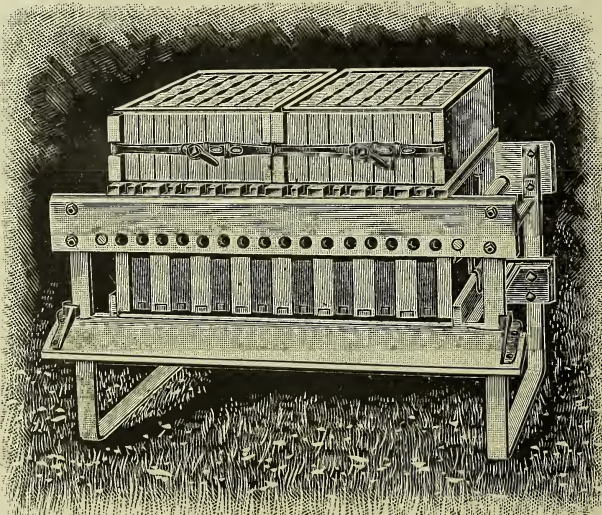
## THE ASPINWALL NON-SWARMING HIVE UP TO DATE.

BY L. A. ASPINWALL.

Since your delineation of the Aspinwall hive in GLEANINGS some time ago, important changes have been made, which, with two seasons' experience, have resulted favorably, both as to cost of construction and the practical results to be obtained.

When first described in the *Bee-keepers' Review* and GLEANINGS, the cost according to my judgment was an insuperable barrier to its general introduction, notwithstanding the product was double that from colonies in ordinary hives, and although pressed on every side by inquiries for hives, I did not feel justified in making any, even for testing purposes. That was something I could do in my own yard.

The slatted separators in the supers of my hives cost as much as or more than the lower story or brood-chamber with its furnishings. The hive as now constructed has no separators, either slatted or plain, and is adapted to either the T super or those composed of section-holders. All together it is nearly as cheap in construction (taking into consideration that four supers are used) as the ordinary commercial hive.



THE ASPINWALL NON-SWARMING HIVE.

While there was a degree of uncertainty as to the absolute control or prevention of swarming with my former type of hive, thus far perfect success has been achieved with my latest pattern.

The elimination of separators in the supers, and the use of slatted frames equal in

width alternating the brood-frames, has made it possible to place double the number of sections directly upon the brood-frames, all of which are in perfect alignment with the bee-spaces below.

With my former type of hive, the lack of a sufficient number of sections in immediate proximity to the brood-combs was where it fell down — only the foundation contained in 35 sections as a working surface to prevent swarming absolutely. We now place 70 sections in close proximity to the brood, and withal no separators to hamper their workings or attach burr-combs to.

The question will naturally arise as to the product being commercially uniform in appearance and weight. Thus far the results have been satisfactory. Two supers of 35 sections each, the bee-spaces of which are in perfect alignment, and in accordance with the workings of the colony in nature, afford a uniform and equal distribution of warmth throughout the supers. In addition to this, the use of supers in pairs admits of reversing from side to side to equalize further the work of comb-building.

When the supers are about half filled, a reversal, placing the outer side of each at the center, or place of greatest warmth, results in beautifully filled sections. This feature, including the perfect alignment and consequent elimination of separators, has made the construction of a non-swarming hive possible; and I sometimes wonder why it should have consumed so many years of my time, including thousands of dollars.

I must here give expression to the fact that unexpected changes are brought about by invention. Referring solely to hive construction, I have been compelled to abandon the plain sections in favor of the beeway. However, I do so gladly, inasmuch as it has enabled me to accomplish greater success in the much sought-for object than ever before.

Jackson, Mich., May 23.

[Mr. Aspinwall, as our older readers know, is an inventor of some note, having designed a

large number of successful farm implements in connection with the potato-growing industry. Prominent authorities have called swarming the bane of modern bee-keeping. This may not always be true, but certain it is that any plan for controlling swarming is welcome.—Ed.]



**BEE-KEEPING FOR BEGINNERS, ILLUSTRATED.****Uncapping Combs by Hand and by Machinery; the Ferguson Uncapping-machine Given a Trial.**

BY E. D. TOWNSEND.

The uncapping of combs in a workman-like manner is an art that few can pride themselves in. True, almost every one who has had some years of experience in the production of extracted honey does fairly well with the uncapping-knife; but the common fault, especially when the short Bingham knife is used, is to pay attention only to that part of the comb that is sealed. The brace-combs built on the edges of the deep top-bars are usually untouched, and these, with the unsealed portions of the comb, are thus left more prominent than the parts that were uncapped; consequently, in the extractor the centrifugal force drives these

prominent parts into the wire of the comb-basket, and so mutilates them that considerable honey is held back. Then if the combs are new and tender, those portions uncapped deep will be pushed out against the basket of the extractor with such force that they are likely to be broken, and bulged out of shape. Wiring the extracting-frames is a great help, and we do not think of giving the bees a single frame unless it is wired, and fitted with a full sheet of foundation. This pays well in many ways.

Fig. 4 shows the correct position of the uncapping-knife as used by the writer, as well as the position to hold the comb that is being uncapped, and the pivot that the frame turns on. This pivot is placed on a cross-piece nailed to the top of the McIntyre uncapping-box so that the cappings fall from the combs direct into the box. The same arrangement is used on the capping-melter so that the cappings fall direct on the melt-



GRANDPA HUTCHINSON TELLING STORIES TO HIS GRANDCHILDREN.

Bruce, the little boy shown above, was too ill to go to the funeral; but he said to his grandma that he was going to die just as soon as he could, so he could see his grandpa again. He thought grandpa was about perfect, for he always said he was going to be a good man like grandpa. It is said that a child often has the power to read character beyond that of an adult. In this case, what a tribute! The loving eyes of those grandchildren—no words can portray the love and admiration that they show. Grandpa was very proud of that picture, and well he might be.—ED.





UNCAPPING COMBS IN A FERGUSON UNCAPPING-MACHINE AND BY HAND.  
An inexperienced man can do as much with the machine as an expert can with the ordinary hand-knife,





WHITE-CLOVER FIELD IN TEXAS. — SEE BEE-KEEPING IN THE SOUTHWEST, LAST ISSUE.

ing-pan. The knife should be held so that the beveled edge is parallel with the surface of the comb, thus throwing the lower edge away from the comb, and separating the cappings that are cut loose from the uncapping surface below. The combs should be tipped over to the right, or toward the knife, so that the top of the frame will be about three inches out of perpendicular. In this position the cappings as loosened will fall clear of the uncapped surface. A common fault of the beginner is to hold the comb so nearly perpendicular that most of the loosened cappings fall back on the uncapped surface. It usually takes up more time to scrape off these loose particles than it took to uncapped the whole comb in the first place, and the cells are not left in as good condition to extract after being thus fussed over with the knife. It is important that not a single particle of loose capping falls back on the comb below the knife.

As the engraving shows, we use the long improved Bingham knife. The shank is wide so as to give a firm hold for the thumb and first finger. The knife should be gripped close to the blade, the first finger and thumb extending down on the shank to give more leverage. When the knack of holding the knife in this way is acquired, the work is much easier than if the handle alone is held.

Some, when uncapping, begin at the top of the comb and cut down. We have never followed this method enough to become very expert, so I will describe only our own way. We start the knife at the lower end of the comb, and, by means of the long blade, uncapped the whole width at one operation. As the blade is only half an inch longer than the width of the comb, it is evident that,

were we to push the knife rapidly, and take long strokes, some portions of the comb at each side would be missed. Instead of taking long strokes, therefore, we work with quick short strokes, and uncapped the whole comb the first time over.

At two of our yards last season we tried the Ferguson uncapping-machine, invented and manufactured by L. R. Ferguson, Harvey, Ill. With suitable frames this machine does not clog any more than an ordinary knife. Figs. 1, 2, and 3 show that the work is well done when conditions are favorable. When the honey is at the right temperature to extract well, the combs run through this machine as if greased, both sides being uncapped at once. We set the knives an inch apart, this thickness being just right. The uncapped surface of the combs is much more even, as will be seen in Figs. 2 and 3, than on those uncapped by hand. An inexperienced student that we had with us last season, with this machine uncapped about the same amount of honey as could one of us having experience with the Bingham knife, and did a rather better job besides.

The majority of our extracting-frames are of the unspaced kind. The top-bar is  $\frac{7}{8}$  inch square, and the end and bottom-bars also  $\frac{7}{8}$  wide. These frames have no projections at any point; thus, when the uncapping-machine is set so as to leave the comb an inch thick, the knives miss the frame by  $\frac{1}{16}$  inch. We had no trouble in uncapping combs in frames with thick top-bars, for we simply removed the upper knife on each side, the rest of the knives being left to uncapped the comb as usual. If desired, the upper knives on each side might be spaced a little wider. Some of the combs uncapped in the machine broke loose along the





Fig. 21.—One of W. S. Hart's bee-sheds, East Coast, Florida; orange-trees in the foreground; shed thatched with palmetto leaves.

under side of the top-bar, and some were depressed, so that the knives did not reach all of the cappings, requiring some hand work later with a regular knife; but if the combs were to be uncapped in the machine year after year, I think nearly all of them would be drawn out evenly, so that the machine would do about all the work.

The Hoffman frame, or any frame having projections of any kind, will not work in this uncapping-machine as made at present. To my notion, this is the worst drawback about the outfit, for there are but few frames that it will handle.

Remus, Mich.

## BEE-KEEPING IN FLORIDA.

### Some Representative Bee-men of Florida.

BY E. G. BALDWIN.

*Continued from last issue.*

If length of time in keeping bees in Florida were taken as the criterion, then Mr. William Sylvester Hart, of Hawks Park, East Coast, holds the palm of being the oldest inhabitant in the industry. He began keeping bees in Florida in 1876—never kept them anywhere else. That means 35 years of continuous bee-keeping in one State. Originally drawn to the peninsula by the orange industry (a native of the Granite State) he has made an enviable name for himself as a grower of fine citrus products, principally oranges. The well-known and deservedly famous Hart's Tardiffe orange was originated by him. His Indian River oranges always win the tip-top market price. Very early in his career in Florida he saw the possibilities of bee-keeping as an accessory pursuit to his groves. So well has he suc-

ceeded at both that he stands as high among the apiculturists of the country as among the horticulturists.

He read Langstroth's work through three times, and then bought bees. Seldom owning more than 125 colonies at one time, he has made them count in results. He uses the ten-frame L. hive, and full sheets of foundation, not wired. His honey sources are saw palmetto and gallberry mixed, for the first crop, and cabbage palmetto and black mangrove mixed for the second crop. The proportion of the last-named honey is about one-third palmetto and two-thirds mangrove. The two honeys, palmetto and mangrove, are so much alike that they can be classed together, making a strictly first-rate article. Mr. Hart has startled the apicultural world by some of his yields per colony and per apiary. Among the worst enemies of his bees he rates the common moth, and ants (see former article). Forest fires also do him much harm, destroying large areas of the saw palmetto in his neighborhood. His apiary is shown in Fig. 21; his honey-house in Fig. 22. There is an accuracy and finish about all he does that is very noticeable. He is an exceedingly busy man, overrun with a vast correspondence, and in many lines of activity he is as ardent a worker as many in their specialty. Readers of GLEANINGS will do well not to write personal letters to Mr. Hart, as the answering of them would make unnecessary inroads on his time and energy, even allowing that he had the time for it. Most of his short cuts in apicultural lines have already been given to the public in the agricultural and bee papers for 35 years past. He thinks (and justly) that he deserves freedom from the burden henceforth. Any State would feel honored to have him on



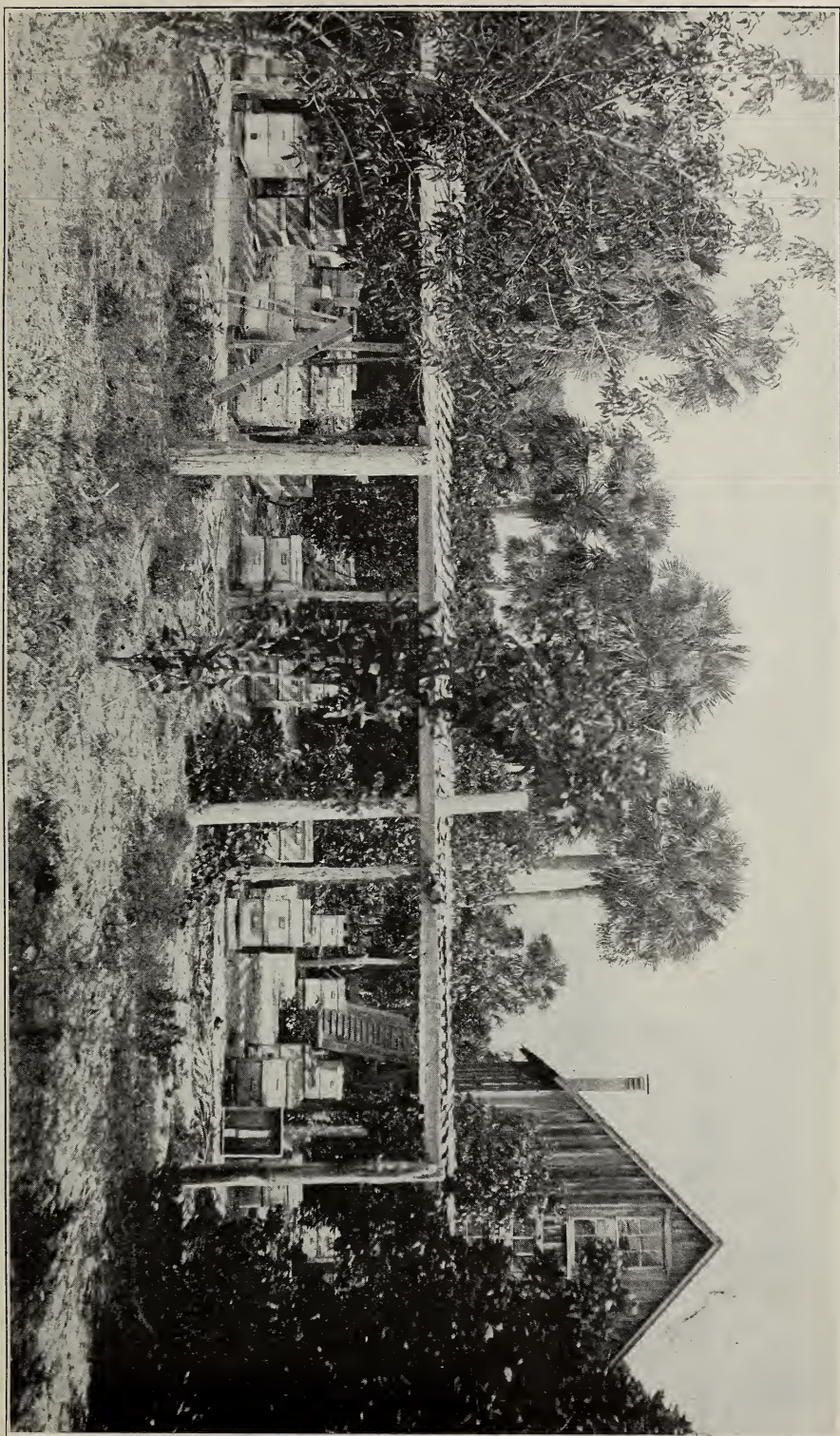


FIG. 22.—Homes-house and part of apiary owned by W. S. Hart, showing orange, peach, kaki, and cabbage-palmetto trees.



her list of citizens. Florida is proud that she has this man among her greatest bee-men and must useful citizens.

Unlike the former, Mr. E. B. Rood, of Bradentown, did not engage in honey-production till winter freezes drove him to something else that would bridge over the chasm. As he says, "I came to Manatee Co. a poor frozen-out orange-grower from Volusia Co." He has built up from almost nothing, and that in only eleven years; has educated his four children, and made prominent success in bee-keeping. It was the marked success in orange honey of Mr. A. F. Brown, then of Glenwood, Fla., that drew Mr. Rood's attention to the possibilities of bees for a livelihood. He now owns and operates nearly 400 colonies in eight yards, or an average of fifty colonies only, to a yard. This may seem a small average to some of the uninitiated in the mysteries of Florida bee-keeping; but practical experience has determined his number, and proved it about right. Mr. Rood says he could keep many more colonies in an apiary were it not for the forest fires. His apiaries average three miles apart, and are run for extracted honey alone. Comb-honey production in Florida is, as he well remarks, "too costly, because of the expensive paraphernalia necessary to handle it properly. If not kept in a warm and dry place, it soon 'sweats' or 'weeps,' and shipping it north is hazardous because of the distance." This is the universal sentiment, with a few marked exceptions. Mr. Rood speaks in the highest terms of the work of Mr. E. D. Townsend, of Michigan, and says he has learned much from him. His motto is, "Do not fuss with your bees." The best results with least labor are his aim.

The honey sources of his locality are wild pennyroyal, orange, gallberry, saw palmetto, mangrove, and cabbage palmetto, with some little from wild sunflower and goldenrod. He uses the ten-frame L. hive, because he wants large hives for breeding, and for supers in which to ripen the honey. He believes thoroughly in ripening the honey on the hive. Mr. Shumard is also a firm advocate of this practice, and better honey than these two men produce it would be hard to find. So much can be said for the practice.

The climate of Florida will not tolerate a poor honey. Half-ripened honey, or even that which is a little less than fully ripe, so soon tends to ferment that absolute maturity is about the only safe method to pursue. The honey *must* be ripe to keep. He, like most bee-men here, uses full sheets of foundation in the brood-nest.

Mr. Rood is peculiarly a victim of overstocking. When he began to make some little success with his bees, letters came in at a lively rate from men in the North. One man from New York wrote to him, asking if there was still unoccupied territory near him. Mr. Rood replied that there was; and after some correspondence had passed between them the man came down from the North. Mr. Rood entertained him, and showed him about. The man declared all

the time that he would not encroach upon the territory already occupied by Mr. Rood. After he went away, however, the man went up State, bought out an apiary, and moved them to Bradentown and located them forty rods from him. Then he began forming out-apiaries, till now he has a string of *six*, practically all in Mr. Rood's territory. Next a man from Michigan moved in and started an apiary of fifty colonies forty rods from his house, and has now begun an outyard. Another man, from Ohio, has begun on the other side of Mr. Rood, less than half a mile away, and reports that his brother is soon to come, and that they together are going to start a line of outyards and show the Florida folks "how to keep bees." Besides these, two more men from New York and another from Michigan have started in close by, and a man from Wisconsin has 250 colonies just over the river. All these are practically within Mr. Rood's territory. This is imposition with a vengeance, and makes one almost wish for some legislation to protect a bee-man in his locality rights—if he has any. I would *not* advise any one contemplating an apiary in Florida to locate in Bradentown nor near there. Mr. Rood, in self-defense, has also taken up trucking and other things, in recent years.

De Land, Fla.

*To be continued.*

## HOW ARTIFICIAL SWARMS ARE MADE IN SWITZERLAND.

From the Schweizerische Bienen-Zeitung.

BY F. GREINER.

The colonies which are to furnish the bees are fed the night before the swarm is to be made. Seven combs with the adhering bees are taken out of as many different colonies as is deemed best—one, two, or more; but the queens are left in their respective hives. A vital law, "bees must be filled with honey," is faithfully observed; honey is poured upon the top-bars of the seven frames, which hang temporarily in an empty hive-body. When bees under natural conditions cast a swarm, each bee takes with it a full load of honey. Hungry bees, like men, are ill-tempered. They are not apt to stay in an empty hive. The feeding is continued until there is ample evidence that the bees can not hold more.

At this moment they are brushed from their combs into an empty box by means of a stiff damp feather, never with a brush. Six pounds of bees are considered sufficient for a swarm. The box containing the bees is placed in a cool dark room, a bottle of warm feed given them, and they are left until the next day.

When exposed to the light the following day, a dozen or more uneasy bees may be noticed buzzing against the screen. They are given their liberty, and again the box is placed in the dark until a queen can be brought. A baby-nucleus hive is taken in-



side a room, and the cover with the adhering frames pulled out and placed on the table upside down. A little smoke is given at one end of the frames, and watch is kept of the other. When the queen runs out upon the table she is covered with an introducing-cage until she runs up, when the entrance is closed with a piece of dry candied honey the size of an egg. The bees in the box are now jarred off, and the cage with the queen is placed quickly inside with them. The bottle is filled again, and the whole returned again to the dark room.

Thus they are left for 48 hours. The theory is that bees in this condition, without comb, and well filled, will accept a queen more quickly than if divided by combs. Toward evening of the fourth day the swarm is hived into permanent quarters with eight frames filled with foundation.

In case honey is not coming in fast, feeding of the bees is continued until the combs have been completed and are sufficiently filled with stores.

Naples, N. Y.

#### THE SECTIONAL HIVE WELL ADAPTED TO THE PRODUCTION OF FANCY COMB HONEY.

Some of the Advantages of the Shallow - frame Brood-chambers.

BY S. D. HOUSE.

The four most important essentials for the production of comb honey are—a location with a good flow of nectar; a practical bee-keeper; a strain of bees bred for the production of comb honey; and the hives and fixtures. The predominating factor is the bee-keeper, as he will combine all the other factors to his own advantage, and his success will be measured by his own ability and en-



Fig. 1.—The shallow brood-frame as used by S. D. House.

ergy. Many practical men are slow to adopt new principles and devices, for they do not give enough thought to the fundamental principles involved to secure the full benefit to be derived therefrom. There are many meritorious inventions of hives and fixtures, and methods of manipulation, that are allowed to go almost unnoticed by bee-keepers, or tried in such a meager way that no real test is made.

Over twenty years ago I became convinced that a shallow brood-frame was a necessity to the producer of fancy comb honey; and I made a test, using about twenty hives containing shallow frames—one style built by Mr. F. A. Salisbury. This hive was constructed for outdoor wintering. It had closed-end frames, double-walled sides with a dead-air space between, and a bottom-board of double thickness with an entrance cut in between, allowing the bees to enter under the frames. The frames were about 4×19, outside measurement. I used these hives three seasons, but failed, because of a number of difficulties. I could winter only a small proportion of the colonies in these hives, and I could not get them to build up in the spring; but in spite of all this, these hives demonstrated their value for the production of fancy comb honey.

I next built 100 sectional hives, 14¼ inches wide



Fig. 2.—Two colonies during alfalfa flow in August that had been reduced to a single section of the brood-chamber on June 15.



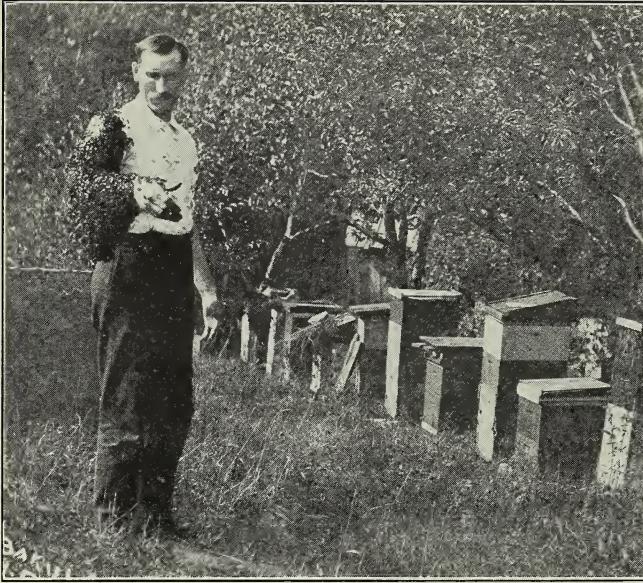


Fig. 1.—Mr. B. F. Schmidt, of Buena Vista, Iowa, with a swarm on his arm. In spite of the fact that this apiary is located in the shade of an orchard, Mr. Schmidt finds it a good plan to use shade-boards, and to raise the hives from the bottom-boards as shown in the next engraving.

and 18 inches long, with the frames hanging crosswise. These frames were  $5\frac{1}{2} \times 11\frac{1}{2}$ , inside measurement—11 to each section, and two sections for each colony in winter. I have in use something like 7000 of these shallow frames, Fig. 1, and they have proven to be very satisfactory, both during winter and in the spring when the colonies were building up for the honey-flow! The Salisbury frame was too shallow to hold honey enough above the cluster to carry a colony through the cold weather. Undoubtedly my inexperience was responsible for some of the failures that I made with this first frame.

#### THE USE OF THE SECTIONAL HIVE AND THE SHALLOW FRAME.

In a moment's time, with the sectional hive we can provide a very large

brood-chamber or a very small one by adding to or taking away one or more sections. For instance, if a colony is below normal strength it may be given a single section in the early part of the season, thus reducing the brood-chamber to the requirements of the colony. Again, a good colony just entering fruit-bloom needs more room; but to add a full-depth brood-chamber above would do more harm than good, for the volume of such is too large for the bees to maintain the proper temperature for brood-rearing. Thus the bees have to cluster more closely than they do before the extra room is given, which reduces the brood-nest instead of enlarging it. If half the space, or, in other words, a single shallow section of a hive be

given, the colony will be able to occupy it.

The sectional hive plays a very important *role* in the production of a large crop of fancy comb honey. By means of it we give the bees sufficient room to keep them from getting the swarming fever when they are gathering honey at the opening of the main flow. At such a time I take away all but one section of the brood-nest by smoking

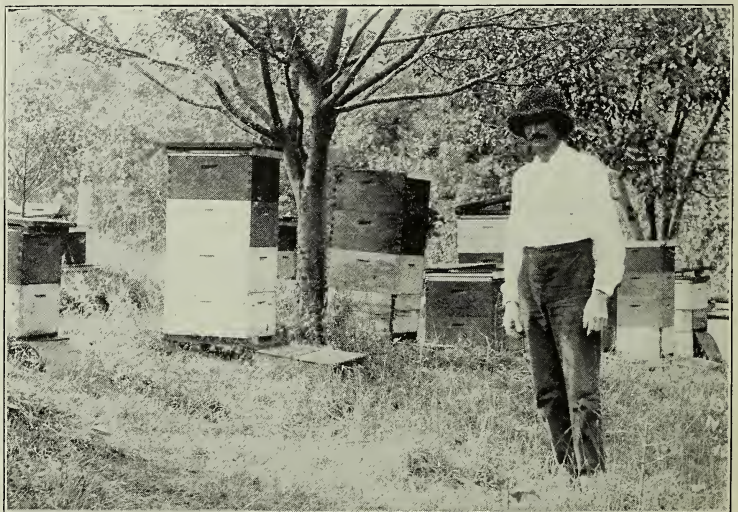


Fig. 2.—A swarm that clustered in a convenient place for hiving.



the bees down or shaking them, and then give comb-honey supers to take the place of the brood-sections removed. The single section of brood left is large enough to maintain the strength of the colony. Fig. 2 shows two colonies in August during the flow of alfalfa which were reduced to a single section of brood on June 15. Each has two comb-honey supers finished, and three were removed from each one on July 10. Usually from the 1st to the 10th of August we take away all comb-honey supers and give sectional brood-combs for the colonies to build up and store in for winter from fall bloom of goldenrod, asters, "queen-of-the-May," snakeroot, etc.

The sectional hive has this advantage also: After a colony has been breeding in a large hive, one can easily reduce brood-rearing to a minimum at a time when bees should be building comb instead of raising a family of consumers; for all bees, in excess of the loss, hatched during July, are of no value unless in a buckwheat location; therefore, retarding brood-rearing during the white-honey flow is of benefit to the colony.

The queen will occupy a small brood-chamber so completely that the best honey will not be stored in the brood-combs. After the white-honey flow is over, and the second section of brood-combs is given, egg-laying having been retarded for two months, the queen will occupy the combs very rapidly, and the bees that hatch from this time on are the ones that live through the winter. This plan gives a colony about twice the number of young bees hatched in September that can be obtained from an eight-frame Langstroth hive worked in the usual way, and about a third more than the ten-frame hive would yield. A large colony with considerable honey in the brood-nest does not show the same zest for brood-rearing as does a colony of medium strength.

Another strong point in favor of the sectional hive is the bee-spaces between the two sets of frames, which makes possible a passageway for the bees to reach their stores without moving over or under or around the cold ends of the frames. The honey should be, and usually is, in the upper sections, which will hold from 30 to 35 lbs. The lower section, being mostly empty, affords an ideal brood-nest for successful wintering.

Camillus, N. Y.

## PRODUCING EITHER COMB OR EXTRACTED HONEY WITHOUT SWARMING.

BY B. F. SCHMIDT.

In order to produce the finest comb honey, the apiarist must have all colonies very strong, and the bees must be taught to work in an extracting-super before any comb-honey supers are given. When all colonies are working strong in the extracting-supers, and the honey-flow has well started, the extracting-super should be set back of the hive-stand, and all the brood taken away from

the brood-chamber below, except one comb where the queen is found laying. Leave this one comb in the brood-chamber, and in place of the others removed put in combs drawn out the year before from full sheets of foundation. After the cover is put on, all the bees should be brushed in front of the entrance. Then after sundown, when all the bees are in, I remove the cover with as little smoke as possible, and put on the comb-honey supers containing full sheets of foundation and sections. I generally put on two supers at a time, although this depends on the strength of the colony. One who has tried it will be surprised to see how the bees go to work and draw out the foundation in the sections. I remove all the brood but one frame, in the manner stated, to give the queen laying room. A colony having a young queen, with plenty of empty combs for laying, will hardly ever swarm.

With the brood that I remove I strengthen weak colonies, and occasionally place some of it in extracting-supers to coax the bees above.

With this plan I have been able to produce the finest comb honey, and I have had but very little swarming, although I have generally used shade-boards, or blocked up the hives one or two inches from the bottom-boards to provide extra ventilation in the hottest weather.

To prevent swarming when colonies are run for extracted honey, plenty of drawn comb should be on hand, or, of course, full sheets of comb foundation will do. By extracting the combs as fast as they are sealed, and giving the bees plenty of comb space all the time, they will keep right on working without swarming.

In the engravings showing the bees on my hat and arm, a number of four-story colonies will be seen. The two lower bodies (eight-frame) I use for brood, while the two upper ones are the extracting-supers. I have my apiary in a young apple-orchard where there is just the right amount of shade.

North Buena Vista, Ia.

## HOME-MADE CAPPING-MELTERS.

A Successful Outfit for Disposing of Cappings; the Result of Considerable Experimenting.

BY G. W. HAINES.

I have made several capping-melters; but the last one, which I used at the home apiary, worked the best. In the winter I usually make whatever I need the next season, and last February I made five new melters like the one here described, one for each out-apiary.

The first melter I ever made had a small tin tube for the wax and honey to run out; but I found this would clog up and cause the honey to overheat. I kept putting in a larger and larger tube until I finally left the whole front of the melter open; then my first machines held so much water that it

took entirely too long to start work, and, besides, required too much heat. My last one is just right in this respect.

The melter as shown in the illustration is 14 inches square, and there is a 1½-inch space for water, which space communicates with the square tube shown in the corner, which I use for filling and for heating the uncapping-knives. There is no water along the sides of the can, as I have found this unnecessary. I have three or four braces in the water space at the bottom to prevent the heavy cappings from sagging down in the middle and forcing the hot water up out of the filling tube.

As shown in the engraving, I have the melter almost entirely surrounded with a wooden jacket to confine the heat. I have found that a two-burner oil-stove provides enough heat in view of this wooden jacket. The tank rests on iron braces so that there is no wood that comes in contact with the stove, and therefore no danger of burning. Some of the small particles of wax pass over into the separating-pail before they are melted, but this does no particular harm, as I always remelt the wax any way, to get it in shape for market.

At the outyards the honey from the separating-pail passes over into a can on the floor, but at the home yard it runs direct into the strainer and is then pumped over to the tanks with the rest of the honey.

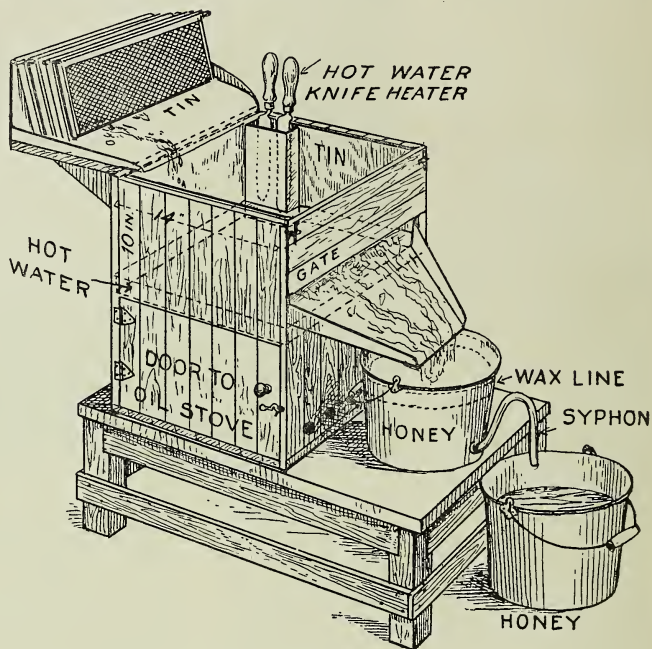
The two-inch opening clear across the front of the melter is ample in size, and I have never known it to clog. The back of the melter is about 2½ inches higher than the front, to give a good fall. With this much slant, large pieces of comb, etc., might pass over unmelted, and so I have a wooden gate that swings across the front, coming within two inches of the bottom, as stated. This is hinged so I can turn it back out of the way when I wish to remove the melter from the box.

In spite of the precautions I have taken to confine the heat, I find that the stove makes the room a little warmer; but practically all of our extracting is done with a power outfit, and a fan is always running, so the higher temperature makes no particular difference.

Mayfield, N. Y.

[The principles of this capping-melter are along the right line; but we would suggest

that 14 inches square of heating surface for melting the cappings is hardly enough to take care of two people uncapping. When a power extractor is used, unless the combs are kept very long in the machine it will take two people with a knife to keep up.



Such a machine as here shown will become congested. The scheme of the wax-separator is the same as that employed by F. R. Beuhne, of Australia.—ED.]

## EXTERNAL CHARACTERISTICS OF AMERICAN AND EUROPEAN FOUL BROOD.

BY E. F. PHILLIPS, PH. D.

[For a good many years efforts have been made to photograph diseased brood and reproduce the exact appearance of the cappings, the diseased larvae, etc.; but a photograph fails to show clearly the distinguishing features of disease. In other words, a comb containing chilled or starved brood may have all the outside appearances of disease, so that many, seeing the photograph only, would be deceived. The Bureau of Entomology of the United States Department of Agriculture has just issued (May 6, 1911) Farmers' Bulletin 442, on the subject of "The Treatment of Bee Diseases." The illustrations in the form of carefully made pen drawings being ahead of anything we have previously seen, we at once asked permission to reproduce them for our readers, and the following is an extract from this bulletin, with the illustrations that go with it.—ED.]

### AMERICAN FOUL BROOD.

American foul brood is frequently called simply "foul brood." It usually shows itself in the larva just about the time that the larva fills the cell and after it has ceased



feeding and has begun pupation. At this time it is sealed over in the comb (Fig. 2, *a*, *b*, *f*). The first indication of the infection is a slight brownish discoloration and the loss of the well-rounded appearance of the normal larva (Fig. 2, *l*). At this stage the

ly removed by the bees; but when they are left they usually become sunken (Fig. 2, *g*, *c*, *j*) and frequently perforated (Fig. 2, *c*, *j*). As the healthy brood emerges the comb shows the scattered sunken cappings covering dead larvæ (Fig. 4), giving it a characteristic appearance.

Pupæ also may die of this disease, in which case they, too, dry down (Fig. 2, *o*, *d*), become ropy, and have the characteristic odor and color. The tongue frequently adheres to the upper side wall and often remains there even after the pupa has dried down to a

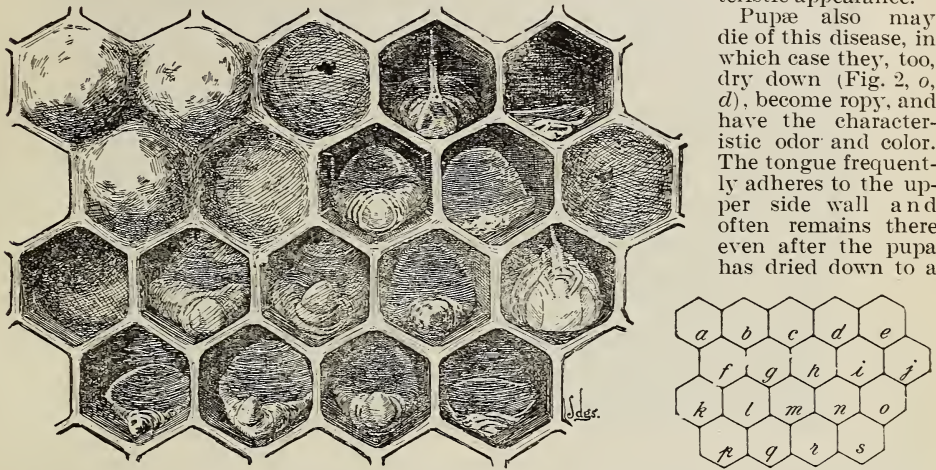


Fig. 2.—American foul brood: *a*, *b*, *f*, normal sealed cells; *c*, *j*, sunken cappings, showing perforations; *g*, sunken capping not perforated; *h*, *l*, *m*, *n*, *q*, *r*, larvæ affected by disease; *e*, *i*, *p*, *s*, scales formed from dried-down larvæ; *d*, *o*, pupæ affected by disease. Three times natural size. (Original.)

disease is not usually recognized by the beekeeper. The larva gradually sinks down in the cell and becomes darker in color (Fig. 2, *h*, *m*), and the posterior end lies against the bottom of the cell. Frequently the segmentation of the larva is clearly marked. By the time it has partially dried down and has become quite dark brown (coffee-colored) the most typical characteristic of this disease manifests itself. If a match-stick or tooth-pick is inserted into the decaying mass and withdrawn the larval remains adhere to it and are drawn out in a thread (Fig. 3), which sometimes extends for several inches before breaking. This ropiness is the chief characteristic used by the bee-keeper in diagnosing this disease. The larva continues to dry down and gradually loses its ropiness until it finally becomes merely a scale on the lower side wall and base of the cell (Fig. 2, *e*, *p*, *s*). The scale formed by the dried-down larva adheres tightly to the cell and can be removed with difficulty from the cell wall. The scales can best be observed when the comb is held with the top inclined toward the observer so that a bright light strikes the lower side wall (Fig. 4). A very characteristic and usually penetrating odor is often noticeable in the decaying larvæ. This can perhaps best be likened to the odor of heated glue.

The majority of the larvæ which die of this disease are attacked after being sealed in the cells. The cappings are often entire-

scale. Younger unsealed larvæ are sometimes affected. Usually the disease attacks only worker brood, but occasional cases are found in which queen and drone brood are diseased. It is not certain that race of bees, season, or climate has any effect on the virulence of this disease, except that in warmer climates, where the breeding season is prolonged, the rapidity of devastation is more marked.

#### EUROPEAN FOUL BROOD.

European foul brood was formerly called "black brood" or "New York bee disease." The name "black brood" was a poor one, for the color of the dead brood is rarely black or even very dark brown. European foul brood usually attacks the larva at an earlier stage of its development than American foul brood, and while it is still curled up at the

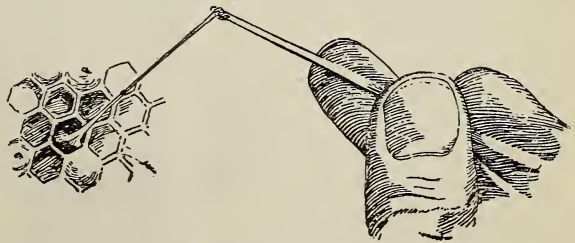


Fig. 3.—The ropiness of American foul brood. (Original.)

base of the cell (Fig. 5, *r*). A small percentage of larvæ dies after capping, but sometimes quite young larvæ are attacked (Fig. 5, *e*, *m*). Sunken and perforated cappings are sometimes observed just as in American



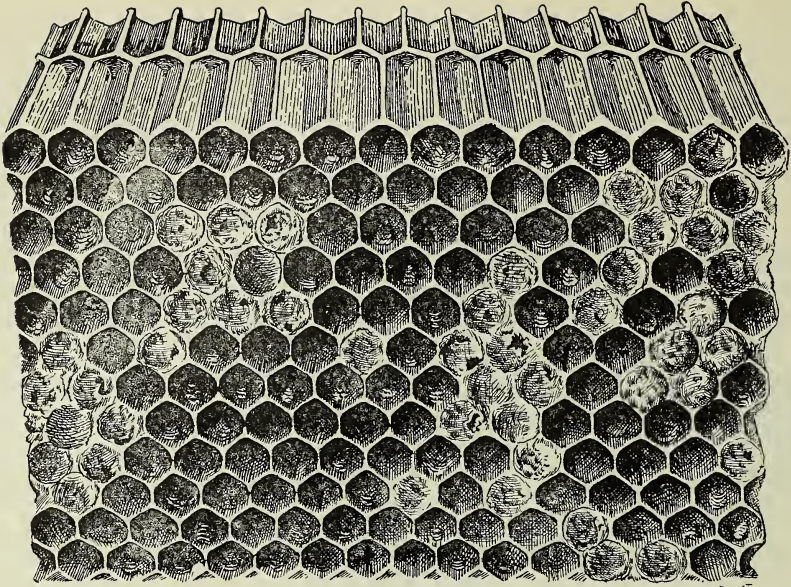


Fig. 4.—American foul-brood comb, showing irregular patches of sunken cappings and scales. The position of the comb indicates the best way to view the scales. (Original.)

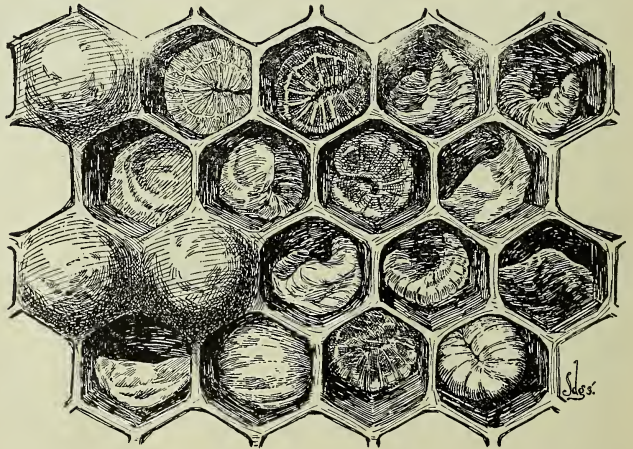
foul brood (Fig. 2, *c, g, j*). The earliest indication of the disease is a slight yellow or gray discoloration and uneasy movement of the larva in the cell. The larva loses its well-rounded, opaque appearance, and becomes slightly translucent, so that the tracheæ may become prominent (Fig. 5, *b*), giving the larvæ a clearly segmented appearance. The larva is usually flattened against the base of the cell, but may turn so that the ends of the larva are to the rear of the cell (Fig. 5, *p*), or may fall away from the base (Fig. 5, *e, g, l*). Later the color changes to a decided yellow or gray, and the translucency is lost (Fig. 5, *q, h*). The yellow color may be taken as the chief characteristic of this disease. The dead larva appears as a moist, somewhat collapsed mass, giving the appearance of being melted. When the remains have become almost dry (Fig. 5, *c*) the tracheæ sometimes become conspicuous again, this time by re-

taining their shape, while the rest of the body content dries around them. Finally all that is left of the larva is a grayish-brown scale against the base of the cell (Fig. 5, *f, h*), or a shapeless mass on the lower side wall if the larva did not retain its normal position (Fig. 5, *n, o*). Very few scales are black. The scales are not adhesive, but are easily removed, and the bees carry out a great many in their efforts to clean house.

Decaying larvæ which have died of this disease are usually not ropy as in American foul brood, but a slight ropiness is sometimes



Fig. 5.—European foul brood; *a, j, k*, normal sealed cells; *b, c, d, e, g, i, l, m, p, q*, larvæ affected by disease; *f, h, n, o*, dried-down larvæ or scales. Three times natural size. (Original.)





observed. There is usually little odor in European foul brood, but sometimes a sour odor is present, which reminds one of yeast fermentation. This disease attacks drone and queen larvæ\* almost as quickly as those of the workers.

European foul brood is more destructive during the spring and early summer than at other times, often entirely disappearing during late summer and autumn, or during a heavy honey flow. Italian bees seem to be better able to resist the ravages of this disease than any other race. The disease at times spreads with startling rapidity and is most destructive. Where it is prevalent a considerably larger percentage of colonies is affected than is usual for American foul brood. This disease is very variable in its symptoms and other manifestations, and is often a puzzle to the bee-keeper.

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## THE TRUTH ABOUT ALFALFA IN NEW MEXICO.

Why New Home-seekers should Investigate before they Invest.

BY O. B. METCALFE.

On page 257, April 15, Mr. H. Robinson states that alfalfa is a sure thing around Roswell, because there is an abundance of water from the artesian wells. No one made the statement that alfalfa would be likely to die out in New Mexico for lack of water. While we used to grow little else here in the Mesilla Valley than alfalfa, because of a scarcity of water, now every farmer who can get the money to put in a pumping-plant is plowing up as much alfalfa land as his plant will water; and the more progressive are saying that, when the assessments from the big dam come in, some other crop must be found which will pay more per acre than alfalfa. If this statement brands me as a knocker, all right. I want to see this country developed and advertised for what it is, but I do not want to see it boomed until it is like a balky horse that every man has to sell for three times his worth in order to get his money back. Land shoved up to this point is close kin to watered stock; and the bad part of it is that *that* kind of water will not make crops grow on the land in exact proportion to the amount applied.

The articles on Florida lands, by Mr. Root, are just what I wish the editors of all the good journals could take the pains and time to get out for New Mexico. I was very glad to see the article in the April 29th, 1911, issue of the *Saturday Evening Post*, by Emerson Hough, on "Irrigation as It Is." I hope the article will not keep eastern home-seekers from coming out and taking the

land for what it is worth. It is all right at that, and we want them all as neighbors and fellow-workers; but I for one wish that they might all come with their eyes open.

## A DASTARDLY WAY OF FIGHTING PARCELS POST.

While in Las Cruces a few days ago I was talking to a friend who keeps a store there, when a man came in with a petition which he was taking around to all the merchants in town to be signed. My friend refused to sign it, and told me, after the man had gone, that it was a petition to be used in fighting parcels post, and that some of the merchants in Las Cruces were signing it. I wonder if this kind of work is being done in the East also, and what organization is footing the bills to have such a petition circulated.

Mesilla Park, N. M.

[GLEANINGS has always tried to state the facts about any new territory—especially to tell all the bad things—so that the unsophisticated will not rush into a new locality only to experience bitter disappointment and the loss of every dollar they ever had. It is an awful thing for one to find himself stranded in a new country among strangers, the victim of real-estate men who ought to be serving a term in the penitentiary. Many and many a time have we seen these poor people with their families on the verge of starvation, scarcely able to get the necessary food to hold body and soul together, without a penny to get back home again where they might have their old job among their friends. It is cold comfort to be told that they were just ordinary suckers—that they should have known better.

On the other hand, there are vast areas of undeveloped country under the stars and stripes where thousands can find health and wealth. We know of a number who, under the doctor's orders, were just barely able to make a living in the North, sold out every thing they had, and went down to Florida and obtained a new lease of life, and enough to live on. Generally these lucky ones feel that they have "struck God's country," and they are grateful to the great Father because he has made for *them* a land flowing with milk and honey, where *they* can live and prosper.

As we have said repeatedly in these columns, no one should go into a new territory with his family and all his belongings until he has gone there first and investigated. If he has no money he should be sure to get hold of a steady job and thus have some means to support his family that can come later. If one is in ill health, and can not live long in the North, and has neither money nor muscle, he may perhaps get some friend who is already located in the South to find something for him that he can do. If he can not make such connection he had better die north among his friends than to starve to death among people who do not know him, and who might shun him if he is afflicted with the white plague.—ED.]

\*The tendency of this disease to attack queen larvæ is a serious drawback in treatment. Frequently the bees of a diseased colony attempt to supersede their queen, but the larvæ in the queen-cells often die, leaving the colony hopelessly queenless. The colony is thus depleted rapidly.

# Heads of Grain from Different Fields

## Room for More Bees in Idaho.

In reply to Wendt Brothers, page 240, March 15, I will say I was more fortunate than the writer of that article in securing a homestead, for I got a claim with bee-range attached, and there is still vacant land in the same township; but it has been withdrawn from entry, so I was informed by the Boise land office, Feb. 11th, some time after I wrote the letter which appeared in GLEANINGS for March 15. This is now known as segregated land, and will probably come in under a reclamation act at some future time.

In regard to the overstocking of our bee-range, I do not think we are hurt yet, or have any cause for alarm. A Colorado man landed a carload of bees in our midst a few days ago, and was shown a good location. This man shipped here just because he wanted to move somewhere, and Caldwell looked good to him on the map.

No one should move his bees here, nor anywhere else for that matter, without first making a personal investigation; but I fully believe that, under existing conditions (a few scattering foul-broody colonies in the hands of careless farmers or inexperienced people), if this whole bee-range were occupied by competent bee-men it would be a matter of only a short time when all foul brood would be wiped out; but as it is, we are too few in numbers to make our presence felt. We have a very good foul-brood law, but no appropriation with it, so the inspectors get no pay, and, consequently, they do but little work. I do not know of a worse-infected apiary than that of our worthy inspector at the present time; but, as before stated, he gets no pay, and can not be expected to work for nothing.

I am not a locator, neither am I advertising bee-pasture; but if Wendt Brothers are getting crowded it may be they could find room for a few colonies in this neighborhood; and if they are good foul-brood fighters we will give them a hearty welcome and render every assistance possible. I know of but two locations in the United States where a good man and a few clean bees would not be welcome—Imperial Valley, Cal., and Parma, Idaho.

Caldwell, Ida., May 1.

J. E. MILLER.

## Bees for the Southland.

In your talk about a different bee for the South, you hit the nail square on the head. I have known it for four or five years, although I had it impressed harder on me last fall than ever, when colonies of 100,000 bees dropped to 10,000 in 30 days on aster, there being no brood hatching to take their place. All would have died out if we had had a hard winter. We must do something in that line or quit.

Wallsend, Ky., May 29.

O. R. WEAVER.

## Sweet Clover: Putting the Horses on the Witness-stand.

Replying to your favor of the 23d, asking for a report on our sweet-clover results, I will say that we sent up, in addition, to the seed purchased of you, some 40 lbs. that we purchased cheap of a bee-keeping friend of ours here. We gave instructions to lay out eight small experimental plots, and the rest to sow out through the pasture. Instructions were given to inoculate as much as possible with what soil could be obtained. We are stirring up a hornets' nest among some of the farmers; but we always win—by feeding sweet clover to their own horses.

We will report results to you as they become noticeable, and you will probably have some nice orders for seed from us along in the fall if this is successful.

Peoria, Ill., May 24.

W. R. CONE.

## The North Texas Bee-keepers' Convention Report.

April 5 and 6, 1911, the North Texas Bee-keepers' Association met at Enloe, with a good attendance. After a call to order by the president, and invocation by W. H. White, the president appointed a committee to draft a program, as none had been arranged. While it was being drafted there was a general hand-shaking, and an opportunity to get acquainted.

After the program had been handed in, there was one of the most lively and enthusiastic discussions

that we have had for many years. The following was discussed: "Why keep bees?" "Location and arrangement of the apiary."

At 1:30 P.M. the following subjects were discussed: "The Inhabitants of the Hive;" "How to Begin Bee-keeping;" "Swarming, and How to Control;" "Feeding Bees—the Proper Feed, and how to Feed;" "Enemies of Bees."

At the business session on the second day, J. M. Hagood, Enloe, was elected president; J. R. Scott, Brookston, First Vice-president; J. W. T aylor, Lake Creek, Second Vice-president; W. H. White, Greenville, Secretary, W. T. Moore, Enloe, Chaplain.

Greenville, Texas, was selected for the next place of meeting.

"Honey-plants of North Texas," "Honey from Cotton," as mentioned in the A B C of Bee Culture, page 131, was discussed.

A resolution was offered and adopted, "Be it resolved by the North Texas Bee-keepers' Association that the statement as a whole, made by the A B C and X Y Z of Bee Culture, page 131, concerning cotton honey is erroneous, and misleading."

"Comb Honey," "Extracted Honey," and "Marketing Honey" also received due share of discussion.

[The item in regard to cotton honey has been marked for correction in the new edition.—ED.]

## Is it Safe to Clip Queens When there are Lizards in the Grass Around the Hives?

I notice in your A B C book you strongly advise clipping the queen, in order to prevent her leaving the hive with the swarm; also that the queen is often found in the grass in front of the hive, trying to fly, while the swarm is in the air. In this country we have in our apiaries a great number of lizards that would soon pounce on a queen or a bee as soon as it strikes the ground, and devour it in an instant. Considering this, would you advise clipping our queens?

MAKING INCREASE RAPIDLY, LEAVING HONEY OUT OF CONSIDERATION.

In making new colonies I am using the following method: When a colony is very strong I am taking out three frames of capped brood with the queen, and placing them in a nucleus box, taking care to leave uncapped cells and eggs in the original hive. Within three days I find the queenless colony begins to draw out queen-cells, and set about rearing a queen. In this way I think the queen reared in the original colony is much stronger than one raised in a nucleus. I should like very much to hear your opinion on this matter, and will appreciate any suggestions you may make as to the best method of increasing numbers of colonies (honey being no object) for several months, as we do not have to consider winter stores in this country, as the forest here is all honey-producing.

Ponce, Porto Rico.

W. K. ANDREWS.

[Under the conditions named, it would certainly be unwise to clip the queen. We would, therefore, advise the use of Alley traps, or just plain drone-guards.

Your method of increase would, we think, be satisfactory. For a general method of increase we would recommend the plan given in Alexander's book.—ED.]

## Trouble in Transferring.

Since reading the letter of V. A. Texera, page 187, I have been desirous of writing you with regard to the matters set out in said letter, but have been putting it off from time to time. However, the inquiry of M. Lucy Fritz, page 283, has finally impelled me to write the letter I have been wishing to write.

Two other people and myself tried the plan of transferring set out in the two letters above this spring, and in each case, except one, the outcome was very disastrous. To make plain what we did, I herewith set out the way each of us, acting independently of the other, transferred some colonies: We took a new hive with frames with full sheets of foundation. We then found the queen and put her, together with some bees, in the new hive; then put on a queen-excluder, and, on top, the old hive. In every case, except one, the bees deserted the queen and stayed up in the old hive; and the spring, being



cold and rainy, the queen soon died. The bees did not touch the frames in the new hive.

The one case that was successful was where some comb with brood was put in the new hive, and in that case the bees did not desert.

I know of another case last summer where bees were transferred along in August after the plan suggested on page 283, and it was successful too.

So it would seem that the plan suggested on page 283 will not work unless some brood is also put in the new hive, or unless the weather is very warm. I offer these suggestions so that some other beginner like myself may possibly be spared a very disheartening experience.

Louisville, Ky.

R. P. DIETZMAN.

### Weight of a Jelly-tumbler of Honey.

How much honey will an ordinary jelly-tumbler hold? What will it weigh, and what should it sell for? I should also like the same information concerning the No. 25 jar.

Hartford, Ct.

L. W. ADAMS.

[There seems to be no stated amount of honey in an ordinary jelly-tumbler. We have seen a great many which ran from six to eight ounces, although we believe the average package holds about seven ounces. The No. 25 jar is supposed to hold practically 16 ounces.—Ed.]

### Queen Found Wingless in the Spring.

The best-working queen in my apiary this summer is wingless. When she went into winter quarters last fall she had wings. On my first examination this spring I found that they were gone. Will you explain the probable cause of her losing them?

New Haven, Ct.

ELMER A. DENT.

[When queens are balled they are often crippled, and it is not strange to find them with their wings partly gone. We presume that the queen mentioned in your letter of June 5 was balled, but it seems strange that the bees should have thus attacked the best queen in your apiary. It is possible that you will find that they will supersede her this season.—Ed.]

### Drones: what Becomes of them in an Alley Trap.

Should drones be destroyed by the use of the Alley trap? When? Is there danger of destroying the queen in doing so?

Suffolk, Va., May 29.

W. T. BAILEY.

[Undesirable drones, when caught in the upper chamber of the Alley trap, will starve to death very shortly.

There is no likelihood that the queen will go up into the upper chamber of the trap with the drones unless she attempts to emerge with a swarm. In that case sufficient bees will cluster around her and feed her. We have known queens to be kept in this way for days at a time.—Ed.]

### Capacity of the Gravity Strainer.

Mr. E. D. Townsend:—I should like to inquire if you consider one of your new settling-tanks, of the size you describe, sufficient for a large apiary, where an eight-frame extractor run by power is used. Also, would it not be more desirable to construct the same of heavy tin instead of using galvanized material? I think this tank must be a great advance over the old style.

Altamont, N. Y.

W. D. WRIGHT.

[Mr. Townsend replies:]

We have never tested this tank for more than 3000 lbs. per day, and this by hand power. I have no doubt, however, but that this size of tank would handle considerably more than this amount. The impurities in honey will separate very readily at a temperature of 85 or 90; and as the temperature falls, separation is slower.

Knowing something about extracting with power, I think honey could be extracted quite clean from the combs, at such a low temperature that separation would be very slow. With our hand-power extractors we have always had good success with the separator at any time when the weather was suitable to extract. In other words, this tank will do its work at any temperature when the cheese-cloth strainer will work.

We empty our honey from the extractor into the tank in large pails. Were this honey pumped, or the tank arranged below, so the honey would run direct from the extractor into the tank, the separator would work faster.

The descriptions in the journals were intended for the 98 per cent of bee-keepers who, like ourselves, use hand power. Some little experimenting will be necessary where power is used and larger quantities put through this tank in a given time. Try two tanks of this size, and fill them both before beginning to can. Then draw off three cans from the first-filled tank, allowing the other to stand while refilling this first tank. Now draw three from the other, and so on through the day, and I am quite sure you will have your honey in good shape, and no fussing with strainers.

Tin would be better than galvanized steel. While all of our tanks are made of the latter, we shall use tin hereafter. Tin is easier to keep clean; but the main point is, honey is not injured, if allowed to stand in tin, as it is in galvanized steel.

When through extracting at a yard, all the gates of our galvanized steel tanks are left wide open, and the honey allowed to run out into other receptacles. But everything that we order in the future will be of tin.

Remus, Mich.

E. D. TOWNSEND.

### Bees Sting Orange-grower's Horses to Death.

The enclosed clipping from our county paper may interest Eastern bee-keepers contemplating the exploiting of orange nectar in the San Joaquin Valley. The temptation to secure a crop of orange honey is indeed strong. It is the only bloom which can give a good yield of table honey until late in the season. On the eastern side of the hills, and fast extending beyond, are numerous groves of bearing trees, while hundreds of acres newly set out join them on the west. The writer, a tenderfoot of six months' residence, found this temptation irresistible, and is located about 80 rods from the scene of the accident. An apiary of about 300 colonies is about 40 or 50 rods from a young grove where the trouble occurred.

Here is the clipping:

"A most peculiar occurrence took place near the Bonnie Brae orchards last Tuesday forenoon when an angry swarm of bees lit on and stung a span of horses belonging to Cliff Dungan so badly that both of them died a short time afterward.

"Not only were the horses stung, but the driver, a man named Hardin, was set upon by the bees and badly injured, Dr. Dungan being called to care for him. . . . Some of the bees lit on the man and team and began to sting. This caused the horses to rear and paw, and this attracted many more of the insects until the poor animals were covered with stingers. The man ran away and saved himself, but the horses did not try to run, and could do nothing to save themselves. . . . The orange-growers in the past have been troubled considerably by marauding bees; and should a few more occurrences of this kind take place they will probably take some drastic action against them."

As nearly as I can find out, those working there, and some further, had been annoyed for some time by flying bees but no swarms. One of the number wore a bee-hat while 80 rods away. Smaller annoyances are the gathering of bees around pumping-plants for house and irrigating purposes, frightening and sometimes stinging people.

The facts in regard to the stinging of the man and horses can not be positively stated. The man with the team, I am told by one interested, saw nothing resembling a swarm, but simply flying bees going to the groves near by. After the fracas they settled in a bunch near by, something like a swarm. The constant handling of frames in looking for disease, shaking for extracting, etc., keep bees in bad temper; but perhaps this accident was entirely owing to the fact that the bees in great multitudes flew in one direction right over the grove to a ninety-acre grove of large trees in full bloom. The scene of the accident was a young grove lately set out, and bees not working on it to any great extent.

Exeter, Cal., May 24.

J. B. COLTON.

[This whole affair is a most unfortunate one, of course, and one to be greatly regretted; but the circumstances, not the bees, should have the blame. It is safe to say that an accident of this kind is not likely to occur again in many years; but at the same time bee-keepers should do all in their power to prevent robbing or any thing else to get the bees badly stirred up.

The orange-growers can not afford to get along without the bees. Any "drastic action" would injure the orange industry more than the bee industry.—Ed.]

# Our Homes

A. I. ROOT

Whatsoever a man soweth, that shall he also reap.—GAL. 6:7.

And Jesus answered and said unto them, I tell you that, if these should hold their peace, the stones would immediately cry out.—LUKE 19:40.

You may have noticed, friends, that we are having quite a few lay sermons; and some of these lay sermons are stirring the world. I gave, a short time ago, one from our Mr. Hallock; and this, it seems, has helped to stir up a sermon I am going to give you from an editor of a daily paper. I am not surprised at these telling protests from the people. It has seemed to me for some time that, if politicians and men of great wealth continue to hold their peace, as we have it in the second of our texts above, the result would be, in the language of the Savior, that the very stones in the pavements would begin to cry out. I have a good friend who reads GLEANINGS away off in Phoenix, Ariz., and he introduced the speaker to our American people. And now I take great pleasure in giving to the world a sermon that, for potency and pungency, and especially cutting truths "right from the shoulder," has seldom been excelled in any of our temperance talks and crusades, so far as I am acquainted with matters:

*Mr. A. I. Root:*—The Anti-saloon people of Maricopa Co., Arizona, are in the midst of a campaign against the saloons and liquor interests. What their chances of success are I have not been a resident here long enough to say, but hope the saloons will be put out of commission. Any way, it will be decided on the 18th of this month—April.

At the time this campaign started, there was in course of construction the Adams Hotel, a \$300,000 building. Mr. J. C. Adams, the main stockholder, is, I believe, the son of a minister; but as a threat and protest against the Anti-saloon campaign he stopped the work and turned all the men off, saying that a hotel would not pay if built in a dry town. It is reported that his mother is heartbroken over the stand he has taken. We suppose that saloon money has paid him to do this.

The leading daily paper (*The Arizona Gazette*, of Phoenix, which claims to have the largest circulation of any paper in Arizona) has come out straight with the Anti-saloon League against the whisky interests, although by so doing they are making strong enemies of all those who side with the liquor business, and have even been threatened with boycott, etc.

After reading your Home paper in GLEANINGS for April 1st, where you mentioned the Adolphus Busch incident, we copied said piece and sent it to the *Gazette*, asking if they could use any extracts from your piece in the Anti-saloon campaign now in progress. I herewith send you a clipping from the *Gazette*, showing how they used the same. They also wrote us a letter, thanking us very much for the article.

Phoenix, Ariz.

J. I. & G. E. MORGAN.

The following is the extract referred to:

## THE SALOON MUST GO.

Down in Binghamton, N. Y., lives a man named Jones. This man is a manufacturer. He is engaged in making scales, which he ships all over the country. Years ago he adopted an advertising slogan, and that slogan has become a by-word in every part of this great country. Every newspaper reader has read, "Jones, he pays the freight."

Voters of Maricopa County, who pays the saloon freight?

For the past several days the saloon people have been regaling us with stories of their beneficence. They have told about the taxes they dump into the city treasury; and they strongly intimate that, if it

were not for the saloons, Phoenix would be a total loss with no insurance.

Of course this is all humbug, and the ranker sort of humbug at that. The expense of the saloons, as every intelligent man knows, is vastly greater than the amount collected in taxes. To be explicit, it is \$42,000 a year greater for this city alone.

But who pays this revenue? Do the saloons pay it? They don't contribute a dollar of that sum.

That money is the price of drunkenness. It is the price of poverty and want. It is the price of wrecked homes and hungry children. It is the price of broken manhood and broken hearts. It is the price of promises broken, of vows unfulfilled. It is the price of degraded womanhood. It is the price of crime, of misery, and of want. And the heart-broken wives and mothers, and the poor underfed children—they are the people who pay this tax.

When Judas Iscariot betrayed the Savior with a kiss he performed an act of effrontery that has but one parallel in the world's history; and that parallel is furnished by the saloon man when he walks over the broken hearts of his victims, dumps *their* money into the city treasury, and with a smirk that would do credit to the arch hypocrite himself says, "See what I am doing for your town."

Yes, Mr. Saloon Man, the people of Phoenix see what you are doing for this town. They see it every time they take a look at Whisky Row. They see it every time you send another victim to the penitentiary. They see it every time you furnish another inmate for the insane-asylum. They see it at the crowded poor-farm. They see it at the county jail, where twenty-eight of your product were sent in a single day. There is no doubt about it—the people see what you are doing for this town.

What is said to have been the most elaborate golden-wedding anniversary ever celebrated anywhere in the world took place in Pasadena, California, March 7, with Mr. and Mrs. Adolphus Busch as the central figures.

The most beautiful and costly of the presents was a diadem presented to Mrs. Busch by her husband. It is described as a crown of gold studded with diamonds and pearls, and valued at \$200,000. It was made in Frankfurt, Germany. The reports state that at the wedding feast at the Busch mansion Mrs. Busch was crowned, and given a seat beside her husband, on a miniature throne.

The presents received by the couple were worth \$500,000. Who paid the freight?

Adolphus Busch is one of the wealthiest brewers in the United States; and, having made his millions in beer, he has gone to the prohibition town of Pasadena to live. His beer is sold all over the country. It is sold in Phoenix. The men and women and children of this city helped pay for the diadem with which his wife was crowned. But you don't notice the wives of any of Mr. Busch's Phoenix customers wearing diamond-studded crowns, do you?

Here is the way T. P. Hallock sizes it up:

"For the brewer's wife, a crown of diamonds; for Jesus Christ, a crown of thorns; and what of the wives of the drunkards who have so generously poured their pennies, dimes, and dollars into this wife-crowning brewer's purse? Will they wear golden crowns?"

Rev. Charles F. Aked, one of the greatest preachers in this country, who recently left New York to go to San Francisco because he thought he could do more good in that city, says:

"Gather together into one view all the people you have ever known or seen or can think of who love the church better than the saloon; and all the people you have ever known or seen or can think of who love the saloon better than the church. If it could be done, no living human being upon this earth, who is capable of connecting two ideas, would ever need to read one single printed page of argument, either upon the 'Fruits of the Liquor-traffic' or the 'Evidences of Christianity.'"

Dr. Aked is a member of the board of trustees of the Anti-saloon League of New York.

But T. P. Hallock, who wrote the paragraph quoted above, is not an Anti-saloon League man. He has no connection with that organization. So far as the *Gazette* knows, he is not connected with a church. He is a business man; but he is a business



man who sees, as not every business man sees, the horrors and infamies of the saloon traffic. Mr. Hallock is advertising manager for The A. I. Root Co., Medina, Ohio.

Adolphus Busch helped make Whisky Row; and the patrons of Whisky Row helped make Adolphus Busch, and helped pay for that diamond-studded crown. Was it a fair exchange?

They say that crown cost \$200,000.

Was that all it cost?

That is only a small part of the purchase price. It cost the lives of men and women. It cost the happiness of countless homes. It cost ten thousand times its price in ruined manhood. It cost the self-respect of boys and girls. It was paid for in the tears and heartaches of wives and mothers.

Where did that money come from?

Was it not counted out under the red lights of the tenderloin? Was not its clink heard in the houses of shame? Was it not thrown down on the saloon counters in Whisky Row? Did it not come from the pockets of honest toil? Were not the food and clothing of innocent children sacrificed that the wife of a millionaire brewer might wear that diamond crown?

Saloon-keepers of Phoenix, go on with your work. Prate about the taxes you pay. Howl your hypocrite chant of personal liberty from the housetops, if you will. Take the last penny from the husbands and sons of heart-broken women and children. Continue your work of making paupers and criminals. Buy up all the newspapers you can. In the name of decency and purity, don't let Whisky Row go down. Entrap the boys as you have done in the past. Ply your trade to the limit. There is room in the penitentiary for a few more criminals. There is room in the asylum for a few more insane. There is room at the poor-farm for some more paupers. If the money you get out of it is worth all that, exact your pound of flesh; but just as certainly as the God of justice lives, a day of reckoning is coming.

It has been written, that "whatsoever a man soweth, that shall he also reap." The *Gazette* has never been inclined to preach. It leaves that for the men trained to the work. But it is a fact in nature that a man pays for whatever he does. Some time, somewhere, the debt must be canceled. Some time, somewhere, there must be a reckoning. Every time you send a murderer to the scaffold you sign a note, payable some time and at some place. Every time you break some woman's heart you sign one of those notes. Every time you darken the mind of a man you sign one of those notes. You are signing some of those notes every day of the world, and some day they are going to fall due. That is a law of nature, and all the legislatures in the world can not repeal or amend that law.

Meantime, Mr. and Mrs. Adolphus Busch have their \$500,000 worth of presents.

Who paid the freight?

Amen and amen to the above sermon, and may God be praised for the man who wrote the above, and who is not afraid of the brewers and distillers with all their millions. The above terrible arraignment of the liquor business illustrates the wonderful truth in the second one of our texts. When God's servants, the clergy (and may he bless them each and all), fail to lift up their voices, the laymen will be impressed by the Holy Spirit, like the stones in the street, to cry out.

By the way, I want to apologize right here for saying my good friend Mr. Hallock was not, so far as I knew at the time, a member of any church. It transpires on further acquaintance that he has been for years a member in good standing in the Baptist Church. He married a young woman here, a few years ago; and as she was a Methodist, in order that they might worship God together he became a member of that church.

May the Lord bless his message, as well as the one that comes from the editor of the *Arizona Gazette*. I hope it see to copied far and wide.

SEARS, ROEBUCK & CO., MONTGOMERY WARD & CO.; AND SIMILAR INSTITUTIONS.

Over thirty years ago, as some of our older subscribers will remember, quite an excitement was caused throughout our land by what was called the "counter store." If I am correct, it came out of what was called the "bargain counter"—a fashion merchants had of putting things on a special counter at a very low figure in order to get them off their hands, and sometimes to start an excitement by offering some article of common need at an unprecedentedly low figure. As I have "kept store" more or less all my life, I was very early attracted to the idea of furnishing things at a very low figure providing the demand was sufficiently large to warrant close margins; so when the five and ten cent counters started up I was ready to go into it with enthusiasm. Previous to that time it used to be the fashion to sell most little articles for 5 and 10 cts.; and where a thing cost, say, 4½ cts., we usually sold it for a dime, especially in jewelry stores, where they usually have a greater profit than grocers, druggists, etc., usually receive. Things that cost a dollar a dozen, or, say, 8 cts., were sold for 15, as we thought 2 cts. or a little less was hardly profit enough on a ten-cent article. Well, I very soon "set my wits to work" in deciding how many useful articles could be squeezed on to the five and ten cent counters, say by buying them in gross lots or still larger amounts. I think I was one of the first, if not the first, to offer these useful articles by mail and get out a catalog. When it came time for our county fairs a suitable tent was put up on our fairgrounds, with circular counters around the outside. For clerks to take care of the traffic, the girls from our factory readily volunteered; and the thing was so well managed that we sold several hundred dollars' worth of five and ten cent articles as fast as the girls could hand them out and take in the nickels. All this was written up and pictured in *GLEANS* something over thirty years ago. Of course, there was a big protest on the part of the stores and groceries because I had cut prices down to such a mark that nobody could "live." But the thanks of the *people* more than overbalanced these grumbles. To illustrate, a newly married couple would come into the store. The young wife (like a butterfly going from flower to flower) would go around picking up kitchen utensils she was sadly in need of; and when she found the article was only 10 cts. instead of 25, it was just fun to see her face light up; and when the young couple went off with a whole outfit, and had some of their money left, it was worth more to me than the small profit I made. Of course we had, later, the 25-cent counter, then one for 50, 75, and \$1.00. Finally, however, the growth of the honey business became such, and my health failing at the same time, I reluctantly gave up that line of traffic. One reason was that it seemed absolutely necessary that I should be in the open air as much as possible, and

so I took up gardening, berry-growing, etc., as you may remember.

What brings all of this to mind is that I have only lately noticed that Montgomery Ward & Co., and Sears, Roebuck & Co., have taken up something along the same line, with this difference: They have a list of articles at 2, 4, 6, 8, and 12 cts. each. With their vast wealth and facilities they are well prepared to astonish the world with their bargains. Let me name a few of them that we have recently purchased of Sears, Roebuck & Co.

The asbestos stove-mat that we used to retail at 10 and 15 cts. is now offered at 2 cts. A very pretty nickel-plated stove-lifter is 2 cts., a nut-cracker, a cake of scouring soap, recipe-book, hinges for screen-doors, and a mouse-trap, at the same figure. Just think of it! a few months ago I thought I was giving our people a tremendous bargain by offering these same mouse-traps for a nickel; but now we have one just as good for the ridiculous sum of only 2 cts.

There are so many of the articles I can not mention them here; but I want to give you one more illustration of what I find on that two-cent counter. The door of my incubator cellar is like the usual sloping cellar-doors. Every time I go down to look at the incubator this door is opened and closed, and I soon found it considerable fatiguing labor. On this two-cent counter I found a coiled steel spring. In a twinkling the spring was hooked to the cistern near by, and the other end to the cellar-door. When the door was open the spring pulled it up against the cistern and held it so the wind would not blow it over with a "whack." When shut down so as to close up the cellar, the spring so nearly balanced the weight that it came down very quietly, and a very little effort with one finger threw it up again. That coiled spring that cost only 2 cts., I verily believe was worth to me \$2.00; and when I wanted a dozen of them so as to have one in each poultry-house door, I got the whole dozen for only 21 cts. On this two-cent counter there are beautiful nice bright tin cups, pretty good-sized tin pans, beautiful little funnels, corkscrews, can-openers, chalk-lines, fish-lines, etc. On the four-cent counter I found a finely made steel punch that has a better temper than any other punch I ever had. There are also neat and handy screwdrivers, putty-knives, garden-weeders, fish-lines (84 feet long), egg-beaters, and beautiful japanned steel fire-shovels. Let me pause a minute. The fire-shovel your wife is using is old and rusty, and banged up by long use. Suppose you take it in one hand and have one of these new japanned fire-shovels in the other hand. Ask the good wife how much she will give to have the old one cleaned up and polished like the new one. Well, it can be done for only 4 cts. in this way: Toss the old one outdoors to be used in the garden, and give *her* the new one. The latter will do very much better work because the ashes or any thing else will slide right off, leaving it bright and

clean. On this four-cent counter are very pretty tin wash-basins, tin pans of various sizes, a very pretty tin pail with a cover, a nice japanned dust-pan, and a most beautiful bright japanned baking-pan. Let me digress again.

Mrs. Root wanted a bread-pan of a certain size to fit our little oven. We went to different hardware stores, but they did not have the size wanted, but we took what they had, although it was so rusty that a lot of time was spent in the vain effort to scour it up so as to look decent. They would not throw any thing off the price *because* it was rusty. I think it cost 15 or 20 cts. Well, now, this *four-cent* pan was made of better stock, much finer workmanship, and is as bright and clean as a silver dollar. You can find on this four-cent counter also a very pretty small-sized mason's trowel; a dozen lamp-wicks; a very useful pair of scissors; a dozen shoelaces, etc. On the six-cent counter there is quite a useful assortment of wrenches; and on the farm it is exceedingly convenient to have wrenches in different places. There is also a two-bladed pocket-knife for 6 cts., and it is a pretty good sort of knife too. A spring tape 60 inches long, nickel-plated, is also on this counter. You can carry it in your vest pocket, and it may be worth a dollar to you. For 12 cts. you can get a great lot of different kinds of tin-ware; a six-quart covered pail, and saw and frame for sawing metals; tea-kettle; coffee-pot; dinner-pail, and a pair of pliers.

By the way, I forgot to say in the proper place that I purchased a pair of pliers for handling gas-pipe for only 6 cts., that has been worth to me more than I can tell in handling the small gas-pipe in our poultry-yard that carries the water to the eleven different yards. This gas-pipe plier cost only 6 cts. For 8 cts. there is a still nicer one, nickel-plated.

Now, the above is only a brief glimpse of the bargains to be found in these books. They are sent to anybody free of charge; and with the aid of this catalog you can tell in a minute just what you *ought to pay*, or about that, for any article needed in the home. Every little while we find traveling men and sometimes tradesmen who are so lacking in conscience that they will not only charge double price, but treble and quadruple—whatever the traffic will bear. The "spectacle fiends" often get *ten times* the proper price for a pair of glasses—that is, they succeed in getting \$2.50 for a pair of spectacles that should be just 25 cts. Now, these catalog books will post you on every thing. Not only that, as a rule they suggest the *best* brand of goods for the least money; and on all these new things that are coming up they keep you posted. And last, but not least, they say, "If for any reason whatever you are dissatisfied with any article purchased from us, we expect you to return it to us at our expense. We will then exchange it for exactly what you want, or will return your money, including any transportation charges you have paid."



And they carry it out to the very letter. I do not know whether the heads of these great firms are professing Christians; but they seem to have discovered that the Christianlike way of doing business is the best advertisement that the world has ever discovered. Let me give you one illustration:

Some years ago I wanted a fur cap. I asked Montgomery Ward & Co. to send me two caps, saying that I would return one of them at my own expense. You see I wanted the privilege of examining both before deciding. Well, I returned one of them, and paid the postage on it; but just as soon as it was received they sent back the postage. Just for the fun of it I made a little protest, saying that I wanted to *try* the two caps, and asked only for the privilege of making a change, and therefore it was my *duty* to pay return postage. They replied that it was their custom to pay charges on *any* thing returned, no matter what the circumstances were.

Considerable has been said through the papers about the duty of everybody patronizing his own town. I have heard both sides of the case fully argued; but it seems to me that every American citizen should have the privilege of purchasing *what* he wants *where* he chooses, and as he chooses. Last winter I showed some of my neighbors the things I had bought for 2 cts. each. One of them remarked, "These things at our hardware stores would cost 10 cts. each." Another neighbor declared that 15 cts. would be the price, and he would not get as *good* an article even then. Now, when I say this I do not mean that our Florida hardware men charge more than do our merchants up here in the North; and when we come right down to the important question, I can not understand *why* hardware men, and especially those who run "racket stores," do not send and get these two and four cent goods, put them right out in sight of their customers, and charge double the price that they pay for them to the Chicago houses.

One more point before closing, and an exceedingly important one it is. It is worth a big lot to be able to return something that, for sufficient reason, you would rather not keep. Here is a case in point: My neighbor bought a quantity of oil for his automobile.

I think it cost him 60 cts. a gallon. When he discovered it was not suitable for that particular machine (and he discovered it in a very short time), the local merchant was very much averse to taking it back. He afterward got a very much better oil for his purpose, of Sears, Roebuck & Co. for only 30 cts. These institutions I have mentioned take every thing back so cheerfully and willingly, standing all expense, that customers feel ashamed to trouble them, and I think this is one great reason why so few goods are sent back.

#### A SEARS AUTOMOBILE WITH SOLID-RUBBER TIRES.

My brother in Michigan has been running one of the Sears automobiles for the last few months. It cost (with top) only \$365, and has solid-rubber tires instead of pneumatic like mine in Florida. Well, after running the machine through mud and sand, both up hill and down, for a good many miles over the Michigan country roads, I am very agreeably surprised to find solid tires almost as easy riding as the pneumatic. When going at a pretty good speed over loose gravel there is a sort of chatter or rattle that pneumatic tires entirely prevent. But when we take into consideration not only the expense but the *annoyance* of punctured tires, especially when they get to be a little old, I believe I will give the preference to the cheaper solid tires, or rather, perhaps, to the somewhat more expensive *cushion* tires. The machine in question has given no trouble so far at all; and it is so much quicker to start than a horse and buggy, to say nothing of the greater speed; and as it never gets tired, it begins to look as if the Sears automobile were really cheaper in the end than a horse and buggy; and last, but not least, when not in use it costs nothing. While there my brother received a telegram calling him to look after some property in Arizona. Now, while he is absent, say for a month or two, no such preparation has to be made as is needed with a horse; and it is the same way with my automobile down in Florida. It may be locked up, and it stands there without expense until it is wanted once more; and when wanted it will be just as ready to go as when it was running every day.

## HIGH-PRESSURE GARDENING

By A. I. Root

"HIGH-PRESSURE" APPLE-TREES, SANDY VETCH, ETC.

My brother, J. H. Root, is at present located near Fennville, Allegan Co., Michigan, right on the east shore of Lake Michigan, where fruit-growing is such an industry. Well, while there on a visit we were speaking of sandy vetch, and he remarked that a lady who owned a forty-acre fruit-farm, almost next neighbor, was growing sandy vetch largely. He said, also, that we must certainly make her a visit, because

she was one of the most progressive fruit-growers in that region. Her excellent foreman showed us over the place. It was just after a big rain, and he said he wanted to look over the farm anyway. I noticed when he started out he picked up a nice bright, light, and clean hoe. It was just such a one as I have at home, that I want in my hand whenever I go around to look over the crops. Well, very soon I found a field of several acres of sandy vetch and rye. The vetch was in bloom, and presented a

very pretty sight. They sow the vetch and rye together along in August or September. The vetch stands the frost and freezes of winter just about as well as the rye; and in this respect it is certainly a wonderful plant.

Before we started out, my brother informed me that this lady had a Baldwin apple-tree that bore 14 barrels of apples last season, and that these apples were sold right on the ground for \$1.50 per barrel. Of course, I wanted to see that apple-tree. It was about as large an apple-tree as I ever saw, in perfect health and vigor, and bearing quite a crop of apples again this year, notwithstanding its wonderful feat of last season. I believe it is generally agreed that the Baldwin seldom or never bears a big crop every year; but here is an exception. While I am about it, let me remark that we took a rule and measured the spread of the branches. Measured one way the limbs make a spread from tip to tip of almost 50 feet. Across the other way it would be about 40 feet. Of course the tree had had careful and judicious pruning. The whole orchard is sprayed five if not six times every season.

And now about fertilizers. For four years past, a heavy crop of sandy vetch and rye has been plowed under every season; and that is all the fertilizer the tree has received. The vetch and rye had just been plowed under at the time of my visit—the first week in June; and our friend with the light hoe, as we passed along, dug up the vetch and rye close to the trunk of the tree where the plow could not get near enough to turn it under. This vetch and rye make excellent cow feed—especially the vetch, or feed for any kind of stock. In fact, it formed a great chunk of nutritious legume, for the plant is a legume, after the fashion of the pea family. But it is not only harder than any pea, but I should imagine, by the way the cows grab for it, that it is also more nutritious. I can not quite understand why sandy vetch, especially where it grows as it does in the sandy soils all over Michigan, is not more grown for feed and for a cover crop.

This crop of 14 barrels was all firsts. Besides these there was a barrel or two of culls, and some cider apples. With their method of fertilizing the orchard, and pruning and spraying, they have very few seconds. I think my brother said that in sorting over about 40 barrels of apples they had only one or two barrels of seconds. There were other Baldwin trees in the orchard that bore 9 or 10 barrels; perhaps a few that went 11 or 12; but only this one had made 14 barrels of firsts. Just think of it, friends! over \$60.00 for the apples on a single tree! Don't you think you could afford one or two apple-trees on your premises? and after you get them, don't you believe you could scrape up enough energy to give these few trees "high-pressure" care and cultivation?

I suppose the sandy vetch, or winter vetch, as it is sometimes called, is especially adapted to sandy soils. It is grown to

some extent in Florida, although I do not know how much. There is some growing now on my Florida premises if the excessive rains and hot weather have not killed it. I will tell you more about it further on.

Although Michigan is a great apple State, I found apples bringing from five to ten cents apiece all over Michigan. In Traverse City I found some wine-saps at 40 cts. a dozen, but they were rather small. They came wrapped up in paper, packed in bushel boxes. I did not learn where they were grown. Just now there is not only a scarcity of apples, but potatoes, old and new, are rapidly coming up in price. Around Traverse City the farmers informed me that potatoes were bringing only 25 cts. a bushel. At the same time in Grand Rapids they were from 90 cts. to a dollar. Every little while, notwithstanding our wonderful facilities for transportation, we find this state of affairs. Why does not somebody start a movement to make a still shorter cut between the "producer and consumer"? Buy up a carload of potatoes in Traverse City and run them down to Grand Rapids, or, still further, down to Cleveland and Toledo, and get double or treble your money. I suppose one difficulty now is, that, after the carload of potatoes reaches the point where the scarcity has occurred, they might meet a sudden "slump" or drop in the market.

#### WEED SEEDS—GETTING BAD ONES ON YOUR FARM.

While looking over that beautiful farm, in one particular corner not far from the barn we were surprised and pained to see a great number of thrifty docks; and when I asked for an explanation the manager said that at one time they were short of hay, and purchased a load or two that, unfortunately, contained dock seed. The horses and cattle sorted out the good hay, and the docks were allowed to get over into the bedding, and then out with the manure. The cost of eradicating those docks would be ever so much more than the hay was worth; and that is one good reason, if not the only one, for growing all the hay and every thing else on your own premises that may be wanted for stock. Just one more incident that was new to me but may not be so to others:

There was one pet cow on the farm that gave a large amount of milk—I do not remember just how much; but the manager said when the weather was bad, and he had plenty of time indoors, he was in the habit of giving this cow a good currying and rubbing every day. This the pet cow greatly enjoyed; and not only that, she gave an extra quart or more of milk every day that she had this thorough currying all over. Now, I do not know exactly how much time this currying takes, and perhaps a quart of milk would not be sufficient to pay a man for doing it every day; but, notwithstanding this, it is a valuable suggestion. I have before reminded you that the pet hen, or, if you choose, the *happy* hen, is the one that makes a big record in egg-laying; and the